

**NAUCORIDAE (HETEROPTERA) OF NEW GUINEA. 6. A
REVISION OF THE GENERA *SAGOCORIS* AND *APTINOCORIS*,
WITH DESCRIPTIONS OF NEW SPECIES**

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Abstract.—The taxonomy of the creeping water bugs belonging to the genera *Sagocoris* and *Aptinocoris*, which are endemic to New Guinea and nearby islands, is revised. The following new species are described: *Sagocoris intermedius* from central Irian Jaya, *Sagocoris irianus* from northern Irian Jaya, *Sagocoris flavinotum* from northern Irian Jaya, *Aptinocoris sogeri* from southeastern Papua New Guinea, *Aptinocoris minutus* from northern Papua New Guinea, *Aptinocoris boikiki* from northeastern Papua New Guinea, and *Aptinocoris ziwa* from northern Irian Jaya. The following new generic assignments are proposed (new combinations given second): *Sagocoris feneri* = *Aptinocoris feneri*; *Sagocoris sedlaceki* = *Aptinocoris sedlaceki*; *Sagocoris cheesmanae* = *Aptinocoris cheesmanae*; *Quadricoris asymmetrica* = *Sagocoris asymmetricus*. The following new synonyms are proposed (junior synonyms listed first): *Quadricoris* La Rivers = *Sagocoris* Montandon; *Truncocoris* La Rivers = *Aptinocoris* Montandon; *Sagocoris browni* La Rivers = *Aptinocoris papuus* Montandon. The supergenera *Margodes* and *Margallus* proposed by La Rivers are considered invalid names since they refer to a taxonomic category that has no official status under the present Code. Illustrations are provided for the male genital structures and female pregenital structures for all *Sagocoris* and *Aptinocoris* species, along with maps detailing the distributions of these species within New Guinea.

The creeping water bugs belonging to the genera *Sagocoris* and *Aptinocoris* are common components of the benthos in many New Guinea streams at elevations below 1,200 m. In appearance, they are reminiscent of members of the Neotropical tribe Ambrysini, and appear to fill similar ecological roles. These groups were treated by La Rivers (1971) in his monograph of the Papuan Naucoridae, but since that time a number of new species have been discovered, and new character systems have been investigated, particularly in the male genitalia, that offer more useful characters for species separation than those employed in La Rivers' (1971) keys.

NOMENCLATURAL HISTORY

The monotypic genus *Aptinocoris* was erected by Montandon (1897) to hold the species *A. papuus* based on a specimen collected by Oduardo Beccari at Hatam in the Arfak Mountains of the Vogelkop Peninsula, in northwestern New Guinea. Although Montandon (1897) stated that his holotype of *A. papuus* was deposited in the Genoa Museum, this did not come to the notice of either Robert L. Usinger or Ira La Rivers, who initiated the first major revisional work on the Papuan naucorid fauna. Following Usinger's untimely death, La Rivers (1971) completed this revision, but without examining the actual holotype of *A. papuus*, instead basing his generic interpretation of *Aptinocoris* on a single specimen from Sattleberg in the Huon Pen-

insula of Papua New Guinea, determined by Montandon as a "*A. papuus* var." This led La Rivers (1971) to misinterpret the genus concept, and to describe several new species in the related genus *Sagocoris* that should actually have been placed within *Aptinocoris*.

The genus *Sagocoris* was proposed by Montandon (1911) to hold *S. biroi* from the "Montagnes Hansmann, Baie de L'Astrolabe," a locality near present day Madang in northeastern New Guinea. La Rivers in his (1971) revision divided this genus into two subgenera, *Sagocoris* and *Truncocoris*. The latter subgenus contained those species with a slightly more elongate body form, non-spinose connexival angles, and posteriorly truncate hemelytra in brachypterous forms. The species grouped in this assemblage are in fact those referable to Montandon's *Aptinocoris*, and *Truncocoris* is therefore synonymized under *Aptinocoris* herein. The remaining species grouped by La Rivers' (1971) in his subgenus *Sagocoris* are those which actually conform to Montandon's genus concept of *Sagocoris sensu strictu*, having a broadly ovate body form, spinose connexival angles, and posteriorly angulate hemelytra in brachypterous forms.

In this same revision La Rivers (1971) erected three additional monotypic Papuan genera, *Quadricoris*, *Cavocoris*, and *Warisia*, that bear morphological similarities to *Aptinocoris* and *Sagocoris*. The basic character used to separate *Quadricoris* from *Sagocoris* was the ventral abdominal asymmetry in the former genus. The asymmetry in *Quadricoris*, while pronounced, is in fact only an extreme expression of a similar trend seen in many species of *Sagocoris*, and does not appear to form sufficient basis for a generic separation. As a result *Quadricoris* is herein synonymized under *Sagocoris*. The genus *Cavocoris* was revised by Polhemus and Polhemus (1989), who considered the genus valid, described additional species, amplified on La Rivers (1971) generic diagnosis, and provided character comparisons to other related endemic Papuan genera. The genus *Warisia* is a distinctive taxon that was discussed in passing by Polhemus and Polhemus (1989) in relation to its affinities with *Cavocoris*. Only a single species, *W. cavanceps* La Rivers is presently known, but a reanalysis of genitalic characters may prove that several species are in fact represented in different parts of New Guinea.

The five above genera were united by La Rivers (1971) into a new tribe Sagocorini, which he subdivided into two "supergenera," *Margodes* and *Margallus*. The supergenus category has no formal standing under the present Code of Zoological Nomenclature, and the two above names are herein considered unavailable, following the opinion of Stys and Jansson (1988). The defining characters given by La Rivers (1971) for his Sagocorini in relation to other cheirochelinae were the absence of "static sense organs" and "antennal grooves," the possession of an ovate body shape, and the presence 2-6 transverse rows of spines at the distal end of the middle tibia. With the possible exception of the last character these are all plesiomorphic states within Naucoridae, and thus not sufficient to define the Sagocorini in a phylogenetic sense. In addition, certain of the above characters were misinterpreted by La Rivers, since his "static sense organs" are present on the anterior propleura of all known species of *Aptinocoris* (Fig. 37). The endemic complex of Papuan naucorid genera as a whole appears to represent a monophyletic radiation from a single ancestral stock, forming an evolutionary continuum, so that the monophyly or paraphyly of the tribe Sagocorini in relation

to its putative sister tribe, the Tanycticini, is not firmly established. These questions of higher level classification are beyond the scope of the current revision, and will be dealt with in a subsequent study examining the cladistic relationships of the New Guinea naucorids as a whole.

METHODS

All measurements in the descriptions below are given in millimeters. The width of the head refers to the width as measured across the eyes; the width of an eye is the greatest width measured perpendicular to the longitudinal axis of the head. The anterior/posterior interocular measurement refers to the shortest distances between the eyes at their anterior and posterior ends respectively as viewed from directly above.

Descriptions, particularly of color, were made from dry pinned specimens. Certain structural characters given in the generic descriptions hold constant across all species, and as such are not repeated in the individual species descriptions.

Male genitalia were analyzed by removing the genital capsule, then dissecting away the parameres to reveal the phallosoma, which was figured *in situ* from the top. The views of the parameres presented represent dorsal views of these structures as they appear when at rest in the genital capsule.

CL numbers following locality data refer to codes used by the authors to reference ecological notes. Localities in the material examined sections have been assigned to their modern Indonesian provinces, even though these data are usually not present on the original labels of older specimens. Labels reading "Dutch New Guinea" have thus been listed under "Indonesia, Irian Jaya Province." In addition, since place names have changed considerably in the Indonesian half of New Guinea over the past several decades modern place name equivalents (where known) have been added in brackets to aid in interpretation of older label data.

The notation "PTFI" in the material examined sections refers to the P. T. Freeport Indonesia mining company, which provided logistical support for surveys in remote areas of Irian Jaya. On the distribution maps, localities in close proximity to each other are represented by a single symbol.

KEY TO THE GENERA OF SAGOCORINI

- 1. Anteclypeus with distinct notch above base of labrum (Fig. 3); male left paramere usually greatly reduced in comparison to right 2
- Anteclypeus lacking distinct notch above base of labrum, anterior margin forming a smooth uninterrupted lip; male left paramere often similar in size to right 3
- 2. Hemelytra in brachypterous forms truncate posteriorly (Fig. 36); anterolateral angle of proepimeron with depressed patch of fine gold setae (Fig. 37) . . . *Aptinocoris* Montandon
- Hemelytra in brachypterous forms angulate posteriorly (Fig. 5); anterolateral angle of proepimeron lacking a depressed patch of fine gold setae *Sagocoris* Montandon
- 3. Hydrofuge pile of abdominal venter dark in coloration; anteclypeus with a pair (1+1) of shallow depressed pits to either side of midline flanking base of labrum; female abdominal paratergite III lacking deep pit; male left paramere not markedly reduced in size compared to right *Warisia* La Rivers
- Hydrofuge pile of abdominal venter shining gold in coloration; anteclypeus lacking a pair of shallow depressed pits to either side of midline; female abdominal paratergite

III often bearing a deep pit; male left paramere frequently reduced in size compared to right *Cavocoris* La Rivers

KEY TO SPECIES OF *SAGOCORIS* MONTANDON

Note: this key employs external characters, primarily of brachypterous females. Males are best identified by dissection of the genital capsule and comparison with the figures provided. Macropterous forms are best identified by association with sympatric brachypterous morphs, which are usually far more common, or by comparison of the male and female genital and pregenital structures to the figures provided.

1. Posterolateral angles of pronotum in brachypterous forms coming to small, sharp acute points (Fig. 2) 2
 - Posterolateral angles of pronotum in brachypterous forms rounded, not forming small, sharp acute points 3
2. Small species, overall length less than or equal to 9.0 mm; apex of female subgenital plate with multiple indentations (Fig. 19) *S. lariversae* La Rivers
 - Larger species, overall length greater than 10.0 mm; apex of female subgenital plate with a single broad, shallow indentation (Fig. 24) *S. irianus* n. sp.
3. Female abdominal paratergites obviously asymmetrical, prolonged on left side (Figs. 18, 20, 21) 5
 - Female abdominal paratergites symmetrical or nearly so, not prolonged on left side (Figs. 22, 28) 4
4. Posterior margin of female subgenital plate broadly concave medially (Fig. 28) *S. flavinotum* n. sp.
 - Posterior margin of female subgenital plate rising to a small projection medially, the tip of this projection narrowly concave (Figs. 22, 23) *S. gressitti* La Rivers
5. Female abdominal paratergites strongly asymmetrical, forming elongate caudal projections (Figs. 18, 20) 6
 - Female abdominal paratergites only weakly asymmetrical, not forming elongate caudal projections (Fig. 21) *S. intermedius* n.sp.
6. Female abdominal paratergite V massively expanded, forming a caudal projection surpassing tips of other segments; subgenital plate narrowed on distal half (Fig. 20) *S. asymmetricus* (La Rivers)
 - Female abdominal paratergite V not prolonged; abdominal paratergite VI elongate, forming a caudal projection surpassing tips of other segments; subgenital plate broadly trapezoidal, not narrowed on distal half (Fig. 18) *S. biroi* Montandon

KEY TO SPECIES OF *APTINOCORIS* MONTANDON

Note: This key employs external characters, primarily of females. Males are best identified by dissection of the genital capsule and comparison with the figures provided. As with *Sagocoris* species, the macropterous forms are best identified by association with the more common brachypterous forms, or by comparison of the male and female genital and pregenital structures to the figures provided.

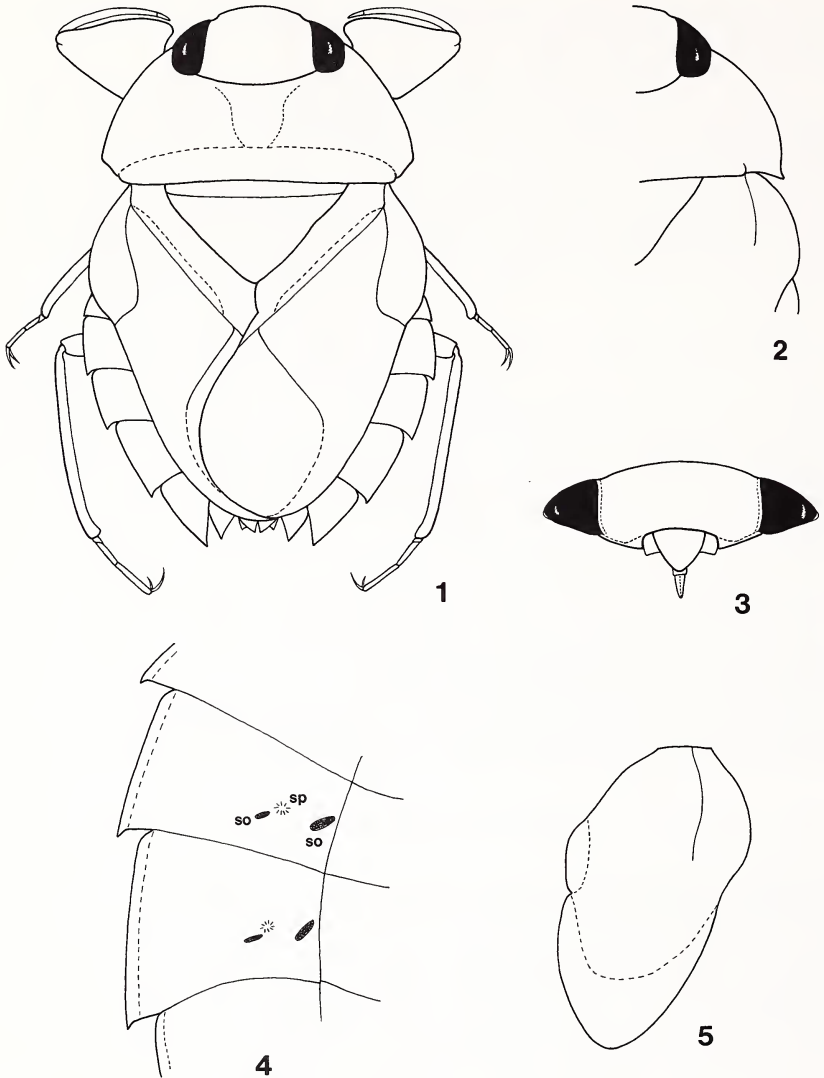
1. Female abdominal paratergites asymmetrical, posterolateral angles more greatly produced on left side than right (Figs. 61, 63, 65, 66) 2
 - Female abdominal paratergites not asymmetrical, equally produced on both sides (Figs. 62, 64, 67, 70) 6
2. Female abdominal paratergites with asymmetrical angles on left side thick and robust (Figs. 63, 65) 3

- Female abdominal paratergites with asymmetrical angles on left side forming slender caudal projections (Figs. 61, 66) 5
- 3. Male right paramere with distal section slightly expanded (Figs. 57, 60); male phallosoma with tip massive and rounded, not folded and angulate (Figs. 56, 59); body length usually equal to or exceeding 7.5 mm; female subgenital plate with shallow concavity at tip (Figs. 63, 65) 4
- Male right paramere with distal section slender, not expanded (Fig. 54); male phallosoma with tip folded and angulate (Fig. 53); body length usually less than or equal to 7.5 mm; female subgenital plate with moderately pronounced concavity at tip (Fig. 64) *A. papuus* Montandon
- 4. Subgenital plate elongate, tip narrowly concave (Fig. 65); New Guinea
 *A. sedlaceki* (La Rivers)
- Subgenital plate truncate, tip broadly concave (Fig. 63); Waigeo Island
 *A. cheesmanae* (La Rivers)
- 5. Large species, overall length greater than or equal to 10.0 mm *A. boikiki* n.sp.
 – Smaller species, overall length less than 9.0 mm *A. fenneri* (La Rivers)
- 6. Very small species, overall length less than or equal to 6.25 mm *A. minutus* n.sp.
 – Larger species, overall length greater than or equal to 6.90 mm 7
- 7. Moderately small species, overall length less than 8.50 mm; form elongate, ratio of body length/width = 1.87/1.00 or greater 8
 – Large species, overall length greater than or equal to 10.00 mm; form robust, ratio of body length/width = 1.66/1.00; female subgenital plate as in Fig. 67 *A. sogeri* n.sp.
- 8. Body length 7.0 mm or less; hemelytron with embolar furrow almost straight and nearly parallel to hemelytral margin, posterior width of embolium less than 1.5 times the basal width (Fig. 68); female subgenital plate as in Fig. 70 *A. ziwa* n. sp.
 – Body length exceeding 7.0 mm; hemelytron with embolar furrow curving inward and away from hemelytral margin posteriorly, posterior width of embolium over 2.00 times the basal width (Fig. 69); female subgenital plate as in Fig. 64 *A. papuus* Montandon

Sagocoris Montandon, 1911

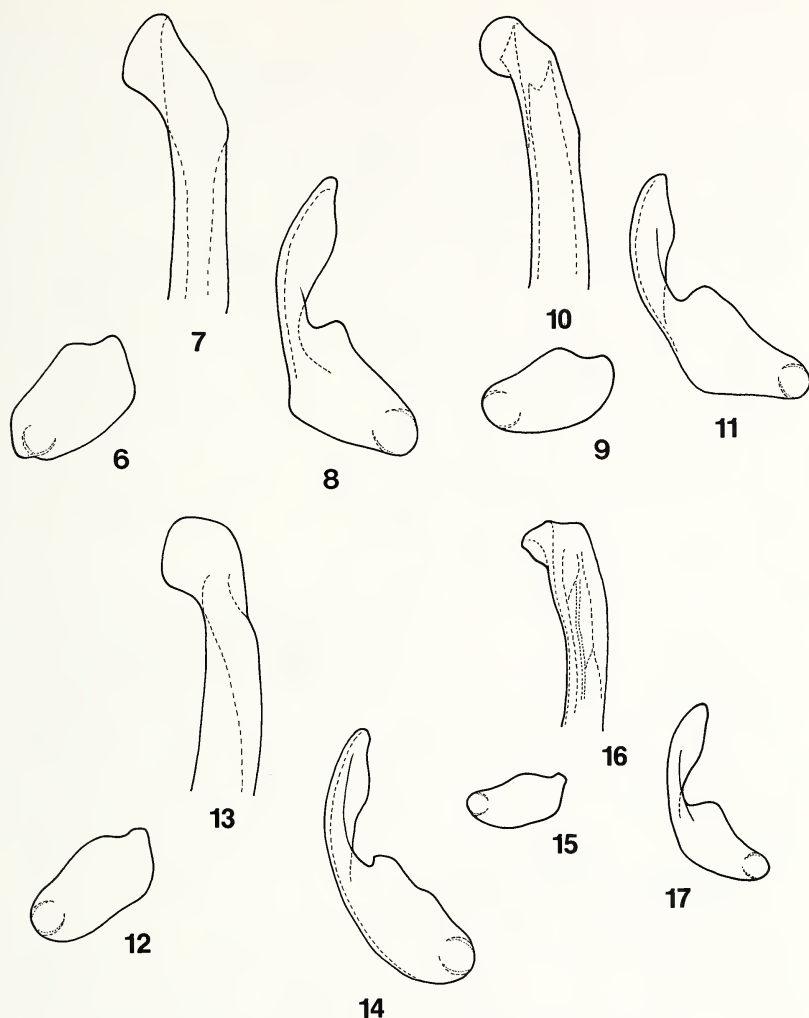
Figs. 1–35

Description. Moderate sized, ovate naucorids (Fig. 1), length 7.50–13.75; basic coloration dull yellowish brown with scattered dark brown or black markings. Brachypterous forms predominating. *Head* dark yellowish brown, with paired longitudinal stripes medially to either side of midline; eyes with dorsal surfaces not rising above plane of vertex, inner margins weakly convergent anteriorly, separated from vertex by shallow furrows, lateral flanges small, glabrous; posterior margin of vertex weakly and broadly rounded, weakly produced behind eyes; anteclypeus with anterior margin broadly rounded, barely projecting ahead of eyes, produced beyond labrum for distance much less than length of labrum, with obvious notch above labral base (Fig. 3); labrum roughly triangular, rounded distally, yellowish brown; maxillary plates moderately developed, inner margins adjoining rostral cavity oriented vertically, anterior margins glabrous, carinate, forming sides of rostral cavity; rostrum extending beyond labrum; antennae 4 segmented, slender, segments III and IV filiform, not extending beyond eye margins. *Pronotum* usually dark yellowish, mottled centrally with dark brown at muscle attachments, weakly depressed medially behind vertex, lateral margins broadly rounded, posterolateral angles acutely rounded, posterior margin bisinuate. *Scutellum* generally dark brown, lateral margins very weakly sinuate, transverse sulcus present along anterior margin. *Hemelytra* usually dark



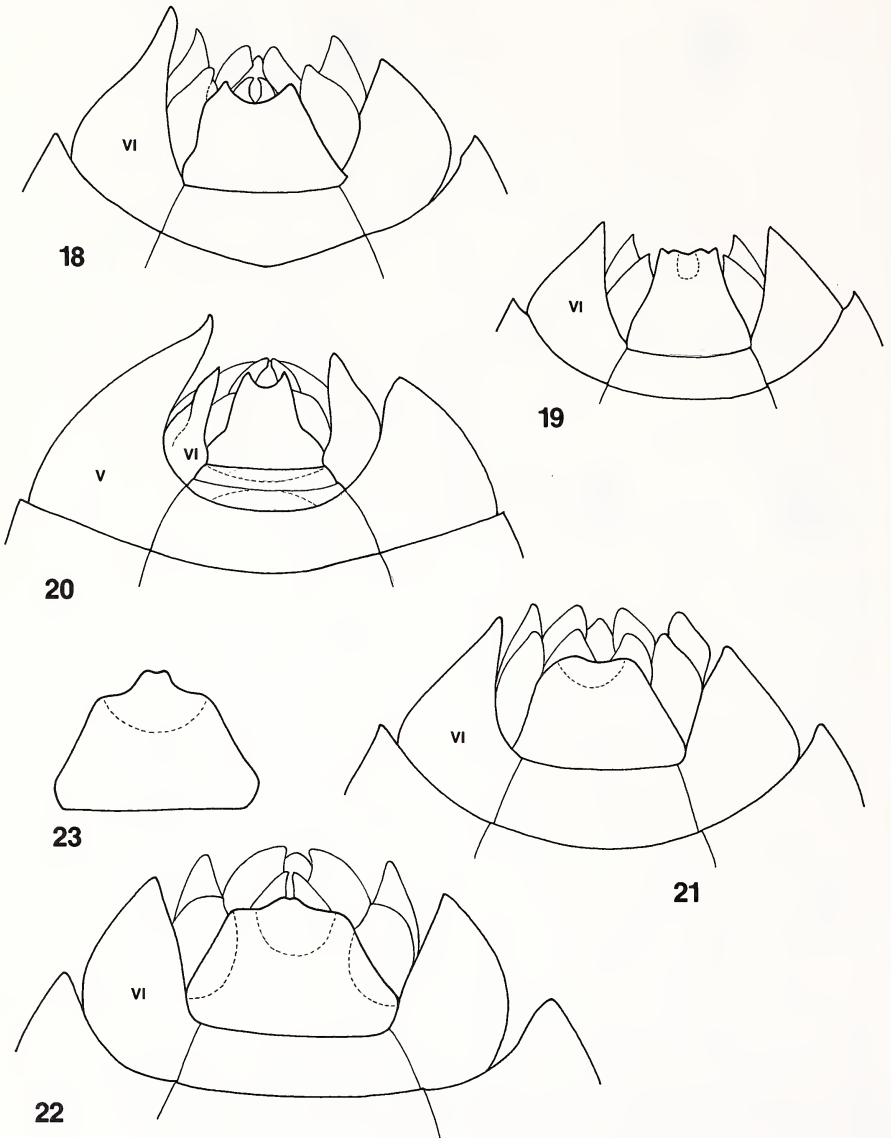
Figs. 1–5. *Sagocoris lariversae* La Rivers. 1. Macropterous female, dorsal habitus. 2. Detail of brachypterous female pronotum, showing more spinose posterolateral angle in this morph. 3. Head, anterior view. 4. Abdominal paratergites III and IV, showing locations of spiracles (sp) and paired, elongate glabrous patches hypothesized to be hydrostatic sensory organs (so). 5. Right wing pad of brachypterous adult.

brown, surface of corium coarsely rugose, membrane reduced, obscure, tips of hemelytra acutely rounded (Fig. 5), extending to base of genital segment; embolium demarcated by deep narrow sinuate furrow along inner margin, posterior margin obscure, lateral margin narrowly glabrous, bearing fringe of long recumbent gold

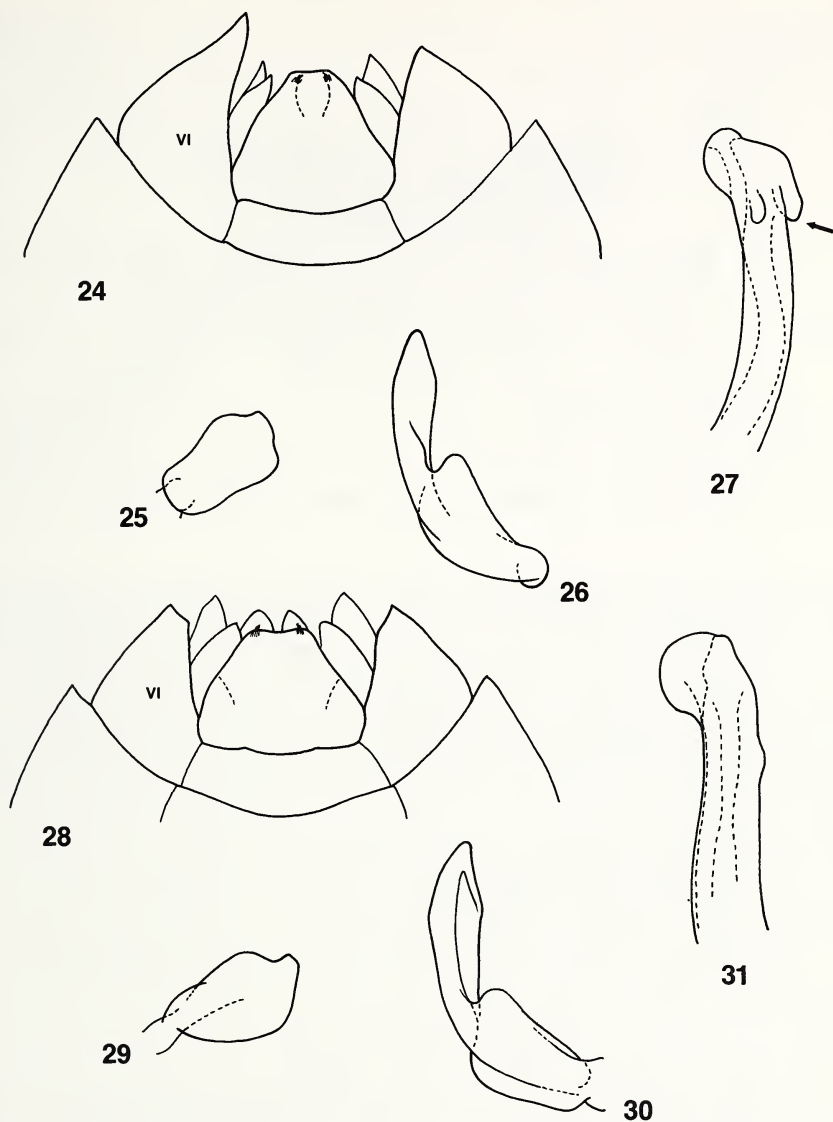


Figs. 6-17. Male genitalia of *Sagocoris* species (all structures in dorsal view, as seen when at rest in genital capsule). Figs. 6-8, *S. gressitti*. 6. Left paramere. 7. Phallosoma. 8. Right paramere. Figs. 9-11, *S. biroi*. 9. Left paramere. 10. Phallosoma. 11. Right paramere. Figs. 12-14, *S. intermedius*. 12. Left paramere. 13. Phallosoma. 14. Right paramere. Figs. 15-17, *S. lariversae*. 15. Left paramere. 16. Phallosoma. 17. Right paramere.

setae; hemelytral commissure with small triangular tab on left hemelytron fitting into corresponding triangular indentation on right hemelytron. *Abdomen* with lateral portions of segments II-VIII exposed when viewed dorsally; posterolateral angles of segments II-IV moderately produced and spinose; angles of segments V-VII in females often becoming asymmetrical to varying degrees, sometimes strongly so, with posterolateral angles more highly produced on left side (Figs. 18-22). *Ventral*



Figs. 18–23. Ventral views of terminal female abdominal structures in *Sagocoris* species, with the relative positions of paratergites V and/or VI indicated. 18. *S. biroi*. 19. *S. lariversae*. 20. *S. asymmetricus*. 21. *S. intermedius*. 22. *S. gressitti*, specimen from Wau, Morobe Province. 23. *S. gressitti*, subgenital plate of specimen from Eio Creek, Central Province, showing intra-specific variation.



Figs. 24–27. *Sagocoris irianus*, male genital and female pregenital structures. All male structures shown in dorsal view, as seen when at rest in genital capsule. 24. Terminal female abdominal structures, ventral view, with relative position of paratergite VI indicated. 25. Male left paramere. 26. Male right paramere. 27. Male phallosoma (arrow indicates position of lightly sclerotized preapical lobes).

Figs. 28–31. *Sagocoris flavinotum*, male genital and female pregenital structures. All male structures shown in dorsal view, as seen when at rest in genital capsule. 28. Terminal female abdominal structures, ventral view, with relative position of paratergite VI indicated. 29. Male left paramere. 30. Male right paramere. 31. Male phallosoma.

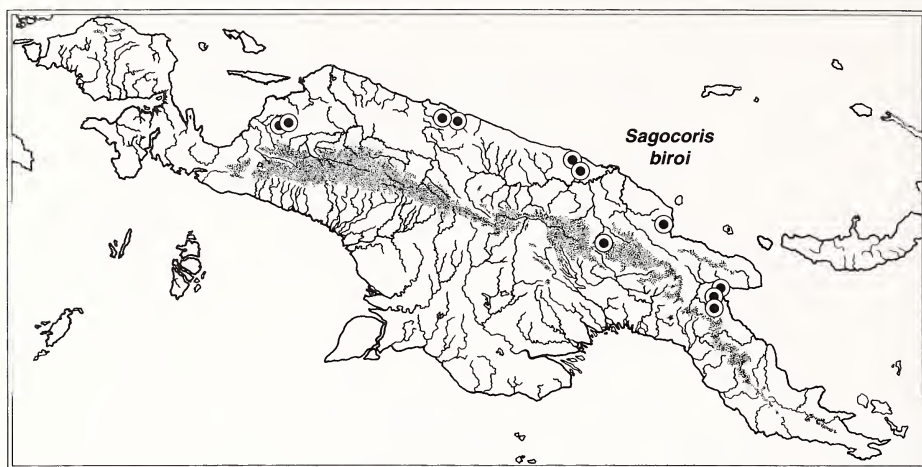


Fig. 32. Distribution of *Sagocoris biroi* in New Guinea.

surfaces of head, prosternum, mesosternum centrally and abdomen covered with thick recumbent gold hydrofuge pile; head with glabrous median longitudinal keel, this becoming more pronounced posteriorly, meeting similar and continuous but more pronounced structure on prosternum; proepimeron densely covered with very short fine recumbent gold setae, inner proepimeral projections not touching medially; mesosternal plate sharply reflexed along anterior margin, coming to acute subconical point anteromedially, this point separated by transverse sulcus from broad tumescence posteromedially; abdominal paratergites III–VI with paired elongate glabrous openings in the hydrofuge pile adjacent to spiracle (Fig. 4), spiracle represented by small raised protuberance thickly covered with gold hydrofuge setae, paratergites II, VII and VIII each with single glabrous openings, all paratergites with lateral margins narrowly glabrous; hydrostatic sense organs not evident on proepimeron. *Legs* usually dark yellowish; anterior femur with thick pad of gold setae along anterior margin, fringe of long gold setae along posterior margin; anterior tibia slender, gently curving, with short gold setae along inner face, anterior tarsi single segmented, claw tiny, obscure, single, fused to tarsus; middle and hind coxae each bearing single glabrous tubercle distally; middle and hind trochanters with narrow longitudinal fringe of short thick gold setae distally on posterior margins; middle and hind femora lacking spines along anterior margins, but bearing continuous longitudinal rows of short sharp spines along posterior margins on dorsal and ventral faces; middle and posterior tibiae and posterior tarsi thickly set with longitudinal rows of stout reddish spines, these spines longer and more dense distally, middle and hind tibiae also with single transverse row of stout spines apically; middle and hind tarsi lacking spines dorsally, bearing longitudinal rows of short reddish spines ventrally; middle and posterior femora, tibiae, and tarsi set with long gold swimming hairs along posterior margins; claws gold, sharply bent, parempodia setiform. *Male genitalia* with parameres asymmetrical (Figs. 6, 8, 9, 11, 12, 14, 15, 17, 25, 26, 29, 30); left paramere greatly reduced, blunt; right paramere larger, curving, distal arm constricted basally,



Fig. 33. Distribution of *Sagocoris gressitti* in New Guinea.

expanded apically; male phallosoma with tip expanded, generally lacking lightly sclerotized preapical lobes (Figs. 7, 10, 13, 16, 31), except in *S. irianus* (Fig. 27). *Female subgenital plate* roughly trapezoidal, sometimes weakly asymmetrical, posterior margin medially concave, often broadly so (Figs. 18–22, 24, 28).

Macropterous forms. Similar to brachypterous forms in general structure and coloration, with following exceptions: pronotum slightly expanded, posterolateral angles rounded; scutellum raised, tumescent; hemelytra with claval and embolar sutures well defined (Fig. 1); membrane fully developed, reaching to base of genital segment, lacking evident venation.

Discussion. The shape of both the left and right parameres is relatively conservative among *Sagocoris* species and offers only moderately useful characters for species separation. The shape of the sclerotized structures at the tip of the phallosoma is much more diagnostic (Figs. 7, 10, 13, 16, 27, 31), and is distinctive for each species, as is the shape of the female subgenital plate (Figs. 18–22, 24, 28).

Sagocoris biroi Montandon

Figs. 9–11, 18, 32

Sagocoris biroi Montandon, 1911: 248.

Diagnosis. This moderate sized species may be recognized by the highly asymmetrical prolongation of left side of abdominal paratergites VI and VII in females (Fig. 18), and by the structure of the male parameres and phallosoma (Figs. 9–11).

Material examined. PAPUA NEW GUINEA, **East Sepik Prov.:** 14 brachypterous males, 11 brachypterous females, 5 immatures, waterfall and rainforest stream near Pasam, 10 September 1983, CL 1798, J. T. and D. A. Polhemus (JTPC); 3 macropterous males, 3 macropterous females, 11 brachypterous males, 6 brachypterous females, trib. to Yemogu Creek, nr. Yaugiba, 12 September 1983, CL 1804, J. T. and D. A. Polhemus (JTPC). **Morobe Province:** 2 macropterous males, 1 macropterous

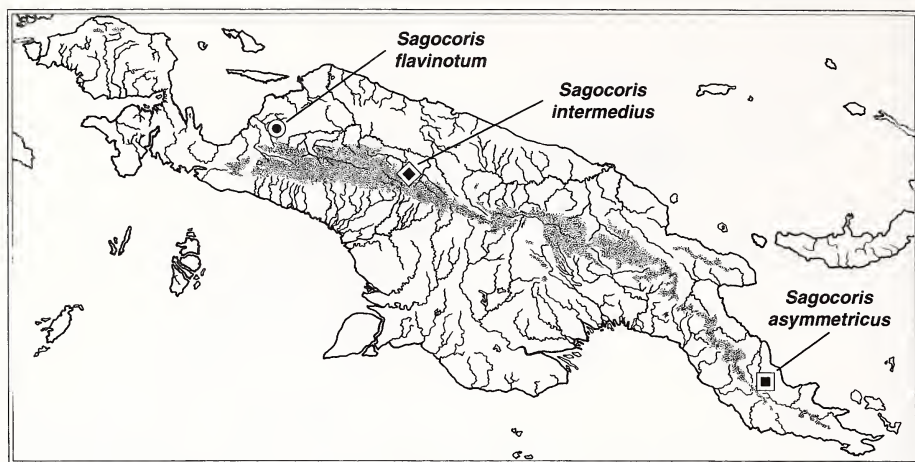


Fig. 34. Distribution of *Sagocoris* species New Guinea.

female, 30 brachypterous males, 54 brachypterous females, 2 immatures, Oomsis, 35 km SW of Lae, 14 September 1983, CL 1810, J. T. and D. A. Polhemus (JTTC); 3 brachypterous females, stream 39 km SW of Lae along Wau Road, 15 September 1983, CL 1812, J. T. and D. A. Polhemus (JTTC); 18 brachypterous males, 12 brachypterous females, Perenin River, along Wau Road, 15 September 1983, CL 1813, J. T. and D. A. Polhemus (JTTC); 1 macropterous female, 4 brachypterous males, 3 brachypterous females, stream 17.8 km N of Mumeng, 19 September 1983, CL 1835, J. T. and D. A. Polhemus (JTTC); 130 specimens, males and females, Gabensis, 10 mi W of Lae, 27 June 1969, I. La Rivers (CAS); 1 macropterous female, 40 brachypterous males, 41 brachypterous females, Lae (Oomsis), 12 December 1969, J. H. Sedlacek (BPBM). **Western Highlands Prov.:** 3 brachypterous males, 2 brachypterous females, Baiyer River, 53 km N of Mt. Hagen, 8 September 1983, CL 1783, D. A. and J. T. Polhemus (JTTC). **INDONESIA, Irian Jaya Province:** 1 female, Hollandia (Jayapura), April 1945, B. Malkin (CAS); 2 macropterous males, 1 macropterous female, 5 brachypterous males, 2 brachypterous females, 9 immatures, small rocky stream above Sentani, Cyclops Mtns., 335 m (1,100 ft), water temp. 22°C, 25 September 1991, CL 2618, D. A. and J. T. Polhemus (JTTC); 6 brachypterous males, 3 brachypterous females, rainforest stream approx. 0.5 km E of PTFI Siewa exploration camp, 3°02.14'S, 136°22.66'E, 60 m (200 ft), water temp. 26°C, 5 April 1998, 08:00–11:00 hr, CL 7089, D. A. Polhemus (USNM, LIPI); 8 brachypterous males, 3 brachypterous females, Logari River and tributaries at PTFI Landing Site 21, 3°00.35'S, 136°33.34'E, 290 m (950 ft), water temp. 24°C (main river), 7 April 1998, 09:00–14:00 hr, CL 7092, D. A. Polhemus (USNM, LIPI).

Discussion. This species was originally described from specimens taken by Biro at "Montagnes Hansmann, Baie de l'Astrolabe," a locality near current day Madang, and appears to be confined to the coastal ranges of northern New Guinea, from the Wapoga River basin eastward to at least the Huon Gulf area (Fig. 32). In general, *S. biroi* is a species of rocky foothill streams, preferring unshaded stream reaches.

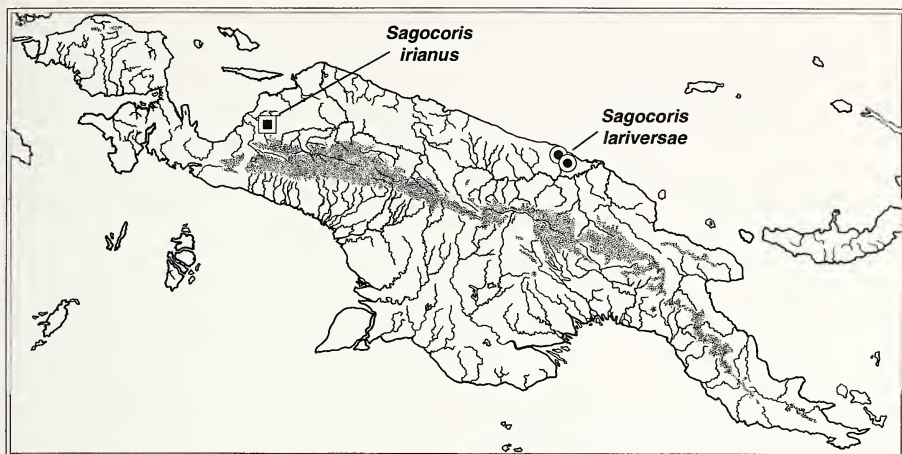


Fig. 35. Distribution of *Sagocoris* species New Guinea.

Individuals are most frequently encountered in areas of moderate flow, where the water washes over beds of moderate to small sized gravel, or along vertical stream banks.

Sagocoris gressitti La Rivers

Figs. 6–8, 22, 23, 33

Sagocoris gressitti La Rivers, 1971: 35.

Diagnosis. This species, the largest in the genus, may be recognized by its size (overall length exceeding 11.50 mm), the absence of abdominal asymmetry in females (Fig. 22), the distinctively massive female subgenital plate (Figs. 22, 23), and the structure of the male parameres and phallosoma (Figs. 6–8).

Material examined. PAPUA NEW GUINEA, **Central Prov.:** 1 brachypterous male, 1 brachypterous female, Eio Creek, nr. Baruanumu, 22 September 1983, CL 1840, J. T. and D. A. Polhemus (JTPC); 1 brachypterous male, Musgrave (Aieme) River at Awarere Plantation, 22 September 1983, CL 1841, J. T. and D. A. Polhemus (JTPC); 1 brachypterous male, Crystal Rapids, nr. Sogeri River, 25 August 1985, J. W. Ismay (JTPC). **Morobe Prov.:** 1 macropterous male, Perenin River, along Wau Road, 15 September 1983, CL 1813, J. T. and D. A. Polhemus (JTPC); 1 brachypterous female, Gurakor Creek, along Wau Road, 15 September 1983, CL 1814, J. T. and D. A. Polhemus (JTPC); 1 brachypterous male, 1 brachypterous female, Bulolo River at Wau, 900 m (2,950 ft), 16 September 1983, CL 1815, J. T. and D. A. Polhemus (JTPC); 3 brachypterous males, 5 brachypterous females, Poverty Creek, nr. Wau, 16 September 1983, CL 1816, J. T. and D. A. Polhemus (JTPC); 7 brachypterous males, Bamboo Creek, nr. Wau, 16 September 1983, CL 1817, J. T. and D. A. Polhemus (JTPC); 1 brachypterous male, Clearwater Creek, nr. Wau, 16 September 1983, CL 1818, J. T. and D. A. Polhemus (JTPC); 4 brachypterous males, 5 brachypterous females, Crystal Creek, nr. Wau, 17 September 1983, CL 1827, J. T.

and D. A. Polhemus (JTPC); 3 brachypterous females, stream 1.5 km N of Mumeng, 19 September 1983, CL 1832, J. T. and D. A. Polhemus (JTPC); 3 brachypterous males, 1 brachypterous female, Wampit River, 10.7 km S of Mumeng, 19 September 1983, CL 1833, J. T. and D. A. Polhemus (JTPC); 1 macropterous male, 9 brachypterous males, 5 brachypterous females, stream 17.8 km N of Mumeng, 19 September 1983, CL 1835, J. T. and D. A. Polhemus (JTPC); 1 brachypterous female, Lae-Bulolo Road, Gurakor Creek, Stn. 133, 30 December 1964, M. E. Bacchus (BPBM); 2 brachypterous males, 2 brachypterous females, 6 immatures, Mt. Missim, 860 m (2,820 ft), December 1969, J. H. Sedlacek (BPBM); 2 brachypterous males, 1 brachypterous female, Tuoima River, 12 December 1969, J. H. Sedlacek (BPBM); 1 brachypterous female, Bulolo River, 960 m (3,150 ft), 14 April 1966, J. L. Gressitt and G. Lippert (holotype, BPBM). **Southern Highlands Prov.:** 4 brachypterous males, 15 brachypterous females, 7 immatures, branch of upper Kara Creek (trib. to Digimu River), 5.5 km S of Moro oil camp, on road to Ridge Camp, 900 m (2,950 ft), water temp. 20°C, 12 March 1995, CL 7017, D. A. Polhemus (BPBM); 2 brachypterous males, 2 brachypterous females, 2 immatures, branch of upper Kara Creek (trib. to Digimu River), 3.5 km S of Moro oil camp, on road to Ridge Camp, 900 m (2,950 ft), water temp. 20°C, 13 March 1995, CL 7018, D. A. Polhemus (BPBM); 1 brachypterous male, 1 brachypterous female, upper Mubi River at Swinging Bridge, nr. Tubage, NE of Moro, 900 m (2,950 ft), water temp. 20°C, 14 March 1995, CL 7020, D. A. Polhemus (BPBM); 1 brachypterous male, rocky stream entering Lake Kutubu near Enu, 800 m (2,624 ft), water temp. 24°C, 15 March 1995, CL 7025, D. A. Polhemus (BPBM); 3 brachypterous females, small rocky stream on N slope of Mt. Bosavi, 1,250 m (4,100 ft), water temp. 19°C, 16 March 1995, 14:30–17:00 hr, 17 March 1995, CL 7026, D. A. Polhemus (BPBM); 1 brachypterous female, Kerisa Creek at Moro oil camp, 840 m (2,755 ft), water temp. 22°C, 21 March 1995, CL 7030, D. A. Polhemus (BPBM). **Western Highlands Prov.:** 1 brachypterous male, 2 brachypterous females, Walo River, 50 km N of Mt. Hagen, 8 September 1983, CL 1794, J. T. and D. A. Polhemus (JTPC); 1 brachypterous female, 3 immatures, 17 km N of Mt. Hagen, 6 September 1983, CL 1780, J. T. and D. A. Polhemus (JTPC); 1 macropterous male, 4 macropterous females, 2 brachypterous males, 5 brachypterous females, 4 immatures, Baiyer River, 53 km N of Mt. Hagen, 8 September 1983, CL 1783, J. T. and D. A. Polhemus (JTPC); 3 brachypterous males, 3 brachypterous females, 1 immature, stream at Baiyer River bird sanctuary, 8 September 1983, CL 1792, J. T. and D. A. Polhemus (JTPC); 3 brachypterous males, 2 brachypterous females, 1 immature, Trauna River, nr. Baiyer River, 8 September 1983, CL 1793, J. T. and D. A. Polhemus (JTPC).

Discussion. This species was originally described from specimens taken in the Bulolo River near Wau, and is widespread at intermediate elevations in the central highlands of Papua New Guinea, being known from drainages both north and south of the island's central divide (Fig. 33). In general, *S. gressitti* occurs in higher, colder waters than *S. biroi*, and is common in the vicinity of Wau, where the latter species is absent. Like *S. biroi*, it occurs in stream reaches of moderate depth, with individuals found primarily in areas with a cobble bottom swept by moderate current.

The female subgenital plate in this species shows a certain degree of variation (Figs. 22, 23), with individuals from the Sogeri Plateau, southeast of Port Moresby, having the tip of the plate more extended in comparison to those from the Wau, Mt. Hagen, and

Lake Kutubu areas. This is considered herein to be no more than localized intraspecific variation based on the meagre material (one female and three males) currently at hand from the Sogeri area, but given that the southern Papuan Peninsula is a distinct area of endemism for many species of aquatic Heteroptera, subsequent collections may show these Sogeri populations to represent a separate species.

A specimen in the Bishop Museum collection from Gurakor Creek bears a La Rivers label reading "*Sagocoris bifidus* PARATYPE," a name with no validity.

Sagocoris lariversae La Rivers

Figs. 1-5, 15-17, 19, 35

Sagocoris lariversae La Rivers, 1971: 40.

Diagnosis. This species is the smallest in the genus, and may be recognized on the basis of its size (overall length less than 9.0 mm), the angulate projections of the posterolateral angles of the pronotum in brachypterous forms (Fig. 2), the shape of the female subgenital plate (Fig. 19), and the structure of the male parameres and phallosoma (Figs. 15-17).

Material examined. PAPUA NEW GUINEA, **East Sepik Prov.:** 18 macropterous males, 11 macropterous females, 7 brachypterous males, 11 brachypterous females, 10 immatures, Nagam River, 3 km S of Pasam, 10 September 1983, CL 1799, J. T. and D. A. Polhemus (JTPC); 1 macropterous male, 1 macropterous female, 3 brachypterous males, 2 brachypterous females, Yemogu Creek, 2 km W of Tring, 12 September 1983, CL 1805, J. T. and D. A. Polhemus (JTPC); 4 macropterous females, 4 brachypterous males, 1 brachypterous female, waterfall and limestone stream nr. Pasam, S of Wewak, 10 September 1983, CL 1798, J. T. and D. A. Polhemus (JTPC); 10 males, 5 females (paratypes), Nagam River, 17 mi SE of Wewak, July 6, 1969, I. La Rivers (paratypes, CAS).

Discussion. This species was originally described from specimens taken in the Nagam River, south of Wewak, and appears on the basis of current records to be confined to the Prince Alexander Range of northern Papua New Guinea (Fig. 35), although it is likely to occur in the adjacent Torricelli Mountains as well. At the Nagam River type locality, *S. lariversae* was found under stones in shallow, silty riffles with moderate to slow current. *Aptinocoris sedlaceki* was also present at this locality, but occurred instead in faster riffles with gravel substrates.

Sagocoris asymmetricus (La Rivers) **new combination**

Figs. 20, 34

Quadricoris asymmetrica La Rivers, 1971: 51.

Diagnosis. This unusual species may be easily recognized by the massively prolonged and asymmetrical left paratergite V in females (Fig. 20), and by the structure of the female subgenital plate, which is deeply concave at the tip (Fig. 20). The male is unknown.

Material examined. PAPUA NEW GUINEA, **Northern Prov.:** 2 females, Kokoda, 365 m (1,200 ft), May 1933, L. E. Cheesman, B. M. 1933-577 (holotype and paratype, BMNH).

Discussion. Although considered a member of a separate monotypic genus by La

Rivers (1971), this taxon is simply a *Sagocoris* with a highly modified female abdominal morphology. The most unusual aspect of this species is the asymmetrical prolongation of the abdomen begins with segment V, rather than with segment VI, as is the case in all other known *Sagocoris* species. Only two females are known, so the male genital morphology cannot be compared to that of other congeners.

Based on the current collections, this species appears to be confined to the northern section of the Papuan Peninsula (Fig. 34); nothing is known regarding its habitat preferences.

***Sagocoris intermedius* new species**

Figs. 12–14, 21, 34

Diagnosis. This species may be recognized by the weakly expressed asymmetry of the female abdomen (Fig. 21), the shape of the female subgenital plate (Fig. 21), and the structure of the male parameres and phallosoma (Figs. 12–14).

Description. *Brachypterous form.* Moderately large for genus, form ovate, basic coloration dull yellowish brown with scattered dark brown or black markings. Male length 11.70, maximum width (across abdomen) 6.20; female length 11.50, maximum width 6.20. *Head* dark yellowish brown, with paired longitudinal stripes medially to either side of midline, width/length = 3.60/2.00; eyes black, shining, width/length = 0.70/1.50, inner margins weakly convergent anteriorly, separated from vertex by shallow furrows, anterior/posterior interocular width = 2.00/2.25, lateral flange small, glabrous; posterior margin of vertex weakly and broadly rounded, weakly produced behind eyes; anteclypeus with anterior margin broadly rounded, barely projecting ahead of eyes, produced beyond labrum for distance much less than length of labrum, with obvious notch above labral base; labrum roughly triangular, rounded distally, yellowish brown; rostrum yellowish basally, second segment gold, glabrous, extending beyond labrum; antennae slender, filiform, not extending beyond eye margins, basal segments bearing slender gold setae, segment IV glabrous. *Pronotum* dark yellowish, mottled centrally with dark brown at muscle attachments, weakly depressed medially behind vertex, width/length (midline) = 6.25/2.20, lateral margins narrowly glabrous, broadly rounded, posterolateral angles acutely rounded, posterior margin bisinuate. *Scutellum* dark brown, width/length (midline) = 3.40/1.85, lateral margins very weakly sinuate, transverse sulcus present along anterior margin. *Hemelytra* dark brown, lighter brown narrowly bordering scutellum, along claval commissure, and on basal $\frac{3}{4}$ of embolium, each hemelytron also with two small dark yellow spots, one near inner posterior margin of embolium, another at posteromedial apex of corium, surface of corium coarsely rugose, membrane reduced, venation obscure, tips of hemelytra acutely rounded, extending to base of genital segment, embolium demarcated by deep narrow sinuate furrow along inner margin, posterior margin obscure, lateral margin narrowly glabrous, bearing fringe of long recumbent gold setae. *Abdomen* with lateral portions of segments III–VIII plus extreme posterolateral angle of tergite II exposed when viewed dorsally, all visible tergites uniformly dark yellowish, posterolateral angles of all tergites bearing slender tufts of elongate gold setae, posterolateral angles of segments II–V moderately produced and spinose, angles of segment VI and VII acute, weakly asymmetrical, more highly produced on left side (Fig. 21), angles of segment VIII acute.

Ventral surface light brown, with head, prosternum, mesosternum centrally and abdomen covered with thick recumbent gold hydrofuge pile; mesosternal plate sharply reflexed along anterior margin, coming to acute subconical point anteromedially, this point separated by transverse sulcus from broad tumescence posteromedially. *Legs* dark yellowish, anterior femur with thick pad of gold setae along anterior margin, fringe of long gold setae along posterior margin; anterior tibia slender, gently curving, with short gold setae along inner face; middle and hind coxae each bearing single glabrous tubercle distally; middle and hind trochanters with narrow longitudinal fringe of short thick gold setae distally on posterior margins; middle and hind femora lacking spines along anterior margins, but bearing continuous longitudinal rows of short sharp spines along posterior margins on dorsal and ventral faces; middle and posterior tibiae and posterior tarsi thickly set with longitudinal rows of stout reddish spines, these spines longer and more dense distally, middle and hind tibiae also with single transverse row of stout spines apically; middle and hind tarsi lacking spines dorsally, bearing longitudinal rows of short reddish spines ventrally; middle and posterior femora, tibiae, and tarsi set with long gold swimming hairs along posterior margins; claws gold, sharply bent. *Male genitalia* with parameres asymmetrical; left paramere small, roughly ovate (Fig. 12); right paramere larger, curving (Fig. 14); male phallosoma with tip expanded, quadrate (Fig. 13). *Female subgenital plate* roughly trapezoidal, weakly asymmetrical, tip broadly and shallowly concave (Fig. 21).

Macropterous form. Unknown.

Types. Holotype, brachypterous male, INDONESIA, **Irian Jaya Prov.**, Hambolan River, Elelim, 200 km NW of Wamena, 650 m (2,130 ft), 19 January 1992, R. Ubaidillah (LIPI). Paratypes: INDONESIA, **Irian Jaya Prov.**: 2 brachypterous males, 2 brachypterous females, 6 immatures, same data as holotype (USNM, JTPC). **Etymology.** The name "intermedius" refers to the size of this species in relation to others in the genus.

Discussion. *Sagocoris intermedius*, as its name implies, is intermediate in size between *S. gressitti* and *S. biroii*, and shows only an incipient trend toward the abdominal asymmetry that is so pronounced in the latter species. This is the only species of *Sagocoris* so far known from the northern slopes of the Irian Jaya central ranges draining to the Mamberamo River basin (Fig. 34). No information is available regarding its habitat preferences.

***Sagocoris irianus* new species**

Figs. 24–27, 35

Diagnosis. This species may be recognized by the moderately expressed asymmetry of paratergite VI in females (Fig. 24), the shape of the female subgenital plate, which is roughly trapezoidal and lacks a broad concavity at the tip (Fig. 24), and by the structure of the male parameres and phallosoma (Figs. 25–27).

Description. *Brachypterous form.* Moderate sized for genus, form ovate, basic coloration dull yellowish brown with scattered dark brown or black markings. Male length 10.80, maximum width (across abdomen) 6.70; female length 10.90, maximum width 7.00. *Head* dark yellowish brown, with paired longitudinal markings medially to either side of midline, width/length = 3.40/1.80; eyes black, shining,

width/length = 0.60/1.20, inner margins weakly convergent anteriorly, separated from vertex by shallow furrows, anterior/posterior interocular width = 2.00/2.15, lateral flange small, glabrous; posterior margin of vertex weakly and broadly rounded, weakly produced behind eyes; anteclypeus with anterior margin broadly rounded, barely projecting ahead of eyes, produced beyond labrum for distance much less than length of labrum, with obvious notch above labral base; labrum roughly triangular, rounded distally, yellowish brown; rostrum yellowish basally, second segment gold, glabrous, extending beyond labrum; antennae slender, filiform, not extending beyond eye margins, basal segments bearing slender gold setae, segment IV glabrous. *Pronotum* dark yellowish, mottled centrally with dark brown at muscle attachments, weakly depressed medially behind vertex, width/length (midline) = 5.80/1.80, lateral margins narrowly glabrous, broadly rounded, posterolateral angles forming very small spinose projections, posterior margin bisinuate. *Scutellum* dark brown, width/length (midline) = 3.00/1.70, lateral margins very weakly sinuate, transverse sulcus present along anterior margin. *Hemelytra* dark brown, lighter brown narrowly bordering scutellum, along claval commissure, and on basal $\frac{3}{4}$ of embolium, each hemelytron also with two small dark yellow spots, one near inner posterior margin of embolium, another at posteromedial apex of corium, surface of corium coarsely rugose, membrane reduced, venation obscure, tips of hemelytra acutely rounded, not attaining base of genital segment, embolium demarcated by deep narrow sinuate furrow along inner margin, posterior margin obscure, lateral margin narrowly glabrous, bearing fringe of long recumbent gold setae. *Abdomen* with lateral portions of segments III–VIII plus extreme posterolateral angle of tergite II exposed when viewed dorsally; all visible tergites uniformly dark yellowish, posterolateral angles of all tergites bearing slender tufts of elongate gold setae; posterolateral angles of segments III–VII in male moderately produced and spinose, angles of male segment VIII rounded; abdominal segment VI in female moderately asymmetrical, more highly produced on left side (Fig. 24), angles of segments III–V and VII moderately produced and acute. *Ventral surface* light brown, with head, prosternum, mesosternum centrally and abdomen covered with thick recumbent gold hydrofuge pile; mesosternal plate sharply reflexed along anterior margin, coming to acute subconical point anteromedially, this point separated by transverse sulcus from broad tumescence posteromedially. *Legs* dark yellowish, anterior femur with thick pad of gold setae along anterior margin, fringe of long gold setae along posterior margin; anterior tibia slender, gently curving, with short gold setae along inner face; middle and hind coxae each bearing single glabrous tubercle distally; middle and hind trochanters with narrow longitudinal fringe of short thick gold setae distally on posterior margins; middle and hind femora lacking spines along anterior margins, but bearing continuous longitudinal rows of short sharp spines along posterior margins on dorsal and ventral faces; middle and posterior tibiae and posterior tarsi thickly set with longitudinal rows of stout reddish spines, these spines longer and more dense distally, middle and hind tibiae also with single transverse row of stout spines apically; middle and hind tarsi lacking spines dorsally, bearing longitudinal rows of short reddish spines ventrally; middle and posterior femora, tibiae, and tarsi set with long gold swimming hairs along posterior margins; claws gold, sharply bent. *Male genitalia* with parameres asymmetrical; left paramere small, roughly ovate, with a slight inflection at the tip (Fig. 25); right paramere larger, curving (Fig. 26); male phallosoma

with tip rounded and bearing a membranous lobe (Fig. 27). *Female subgenital plate* roughly trapezoidal, symmetrical, tip truncate, weakly concave medially (Fig. 24).

Macropterous form. Unknown.

Types. Holotype, brachypterous male, INDONESIA, **Irian Jaya Prov.**, cobble bottomed overflow channel adjoining Tirawiwa River, 0.5 km W of PTFI Siewa exploration camp, 3°02.66'S, 136°22.34'E, 60 m (200 ft), water temp. 28°C, 3 April 1998, 12:00–15:15 hr, CL 7086, D. A. Polhemus (LIPI). Paratypes: INDONESIA, **Irian Jaya Prov.**: 18 brachypterous males, 12 brachypterous females, same data as holotype (USNM, LIPI).

Etymology. The name “irianus” refers to the western portion of New Guinea, known as Irian to Malay speaking peoples.

Discussion. *Sagocoris irianus* is superficially similar to *S. biroi* in general size and coloration, but shows far less development of abdominal asymmetry, and has a much differently shaped female subgenital plate (compare Figs. 18, 24).

This species is currently known only from the Wapoga River basin of northern Irian Jaya, an area where the central and northern coastal ranges of the island converge (Fig. 35). Given this, it is uncertain as to whether the broader range of this species will eventually prove to encompass the northern coastal ranges, the north flank of the central ranges, or both. As noted previously, another congeneric species, *S. intermedius*, occurs on the northern flanks of the central ranges in the area to the east of that occupied by *S. irianus*, and it may be that the two species are each confined to separate drainage basins, with *S. irianus* in the Wapoga and *S. intermedius* in the Mamberamo. Clarification of these distributions must await further collections from northern Irian Jaya.

The type series of *S. irianus* was taken along the margin of a clear, slowly flowing, cobble-bottomed overflow channel adjacent to the main Tirawiwa River. The insects aggregated along the edges of this channel amid tangles of submerged sticks and grasses, in areas partially shaded by the riparian rain forest.

***Sagocoris flavinotum* new species**

Figs. 28–31, 34

Diagnosis. This species may be recognized by the near-absence of female abdominal asymmetry (Fig. 28), the shape of the female subgenital plate, which is roughly trapezoidal and has a broadly concave tip (Fig. 28), by the structure of the male parameres and phallosoma (Figs. 29–31), and by the yellowish brown pronotum with very limited black markings.

Description. *Brachypterous form.* Moderate sized for genus, form ovate, basic coloration dull yellowish brown, scutellum and hemelytra dark brown. Male length 10.50, maximum width (across abdomen) 6.60; female length 10.40, maximum width 6.50. *Head* dark yellowish brown, with small paired longitudinal brown markings medially to either side of midline, width/length = 3.50/2.00; eyes black, shining, width/length = 0.60/1.45, inner margins weakly convergent anteriorly, separated from vertex by shallow furrows, anterior/posterior interocular width = 1.95/2.25, lateral flange small, glabrous; posterior margin of vertex weakly and broadly rounded, weakly produced behind eyes; anteclypeus with anterior margin broadly rounded, barely projecting ahead of eyes, produced beyond labrum for distance much less

than length of labrum, with obvious notch above labral base; labrum roughly triangular, rounded distally, yellowish brown; rostrum yellowish basally, second segment gold, glabrous, extending beyond labrum; antennae slender, filiform, not extending beyond eye margins, basal segments bearing slender gold setae, segment IV glabrous. *Pronotum* dark yellowish, with a pair (1+1) of short black longitudinal streaks behind eyes to either side of midline; not depressed medially behind vertex, width/length (midline) = 5.90/2.00, lateral margins narrowly glabrous, broadly rounded, posterolateral angles rounded, lacking small spinose projections, posterior margin weakly bisinuate. *Scutellum* dark brown, width/length (midline) = 2.00/1.40, lateral margins very weakly sinuate, transverse sulcus present along anterior margin. *Hemelytra* dark brown, lighter brown on basal $\frac{1}{2}$ of embolium, additional dark yellow spots faintly suggested at posteromedial apex of corium on each hemelytron; surface of corium coarsely rugose, membrane reduced, venation obscure, tips of hemelytra acutely rounded, not attaining base of genital segment, embolium demarcated by deep narrow sinuate furrow along inner margin, posterior margin obscure, lateral margin narrowly glabrous, bearing sparse fringe of long recumbent gold setae. *Abdomen* with lateral portions of segments III–VIII plus extreme posterolateral angle of tergite II exposed when viewed dorsally; all visible tergites dark yellowish except central portion of tergite V medium brown in male; posterolateral angles of all tergites bearing slender tufts of elongate gold setae; posterolateral angles of segments III–VII in male moderately produced and spinose, angles of male segment VIII rounded; abdomen in female very weakly asymmetrical on distal segments (Fig. 28), posterolateral angle of abdominal segment VI slightly more truncate and less acute on left side, posterolateral angle of segment VII slightly more slender and acute, angles of segments III–V symmetrical, moderately produced and acute. *Ventral surface* yellowish brown on head and thorax, light medium brown on abdomen; head, prosternum, mesosternum centrally and abdomen covered with thick recumbent gold hydrofuge pile; mesosternal plate sharply reflexed along anterior margin, coming to acute subconical point anteromedially, this point separated by transverse sulcus from broad tumescence posteromedially. *Legs* dark yellowish, anterior femur with thick pad of gold setae along anterior margin, fringe of long gold setae along posterior margin; anterior tibia slender, gently curving, with short gold setae along inner face; middle and hind coxae each bearing single glabrous tubercle distally; middle and hind trochanters with narrow longitudinal fringe of short thick gold setae distally on posterior margins; middle and hind femora lacking spines along anterior margins, but bearing continuous longitudinal rows of tiny dark spines along posterior margins on dorsal and ventral faces; middle and posterior tibiae and posterior tarsi thickly set with longitudinal rows of stout reddish spines, these spines longer and more dense distally, middle and hind tibiae also with single transverse row of stout spines apically; middle and hind tarsi lacking spines dorsally, bearing longitudinal rows of short reddish spines ventrally; middle and posterior femora, tibiae, and tarsi set with long gold swimming hairs along posterior margins; claws gold, sharply bent. *Male genitalia* with parameres asymmetrical; left paramere small, roughly ovate, slightly produced at tip (Fig. 29); right paramere larger, curving (Fig. 30); male phallosoma with tip broadly rounded (Fig. 31). *Female subgenital plate* roughly trapezoidal, symmetrical, posterior margin broadly concave (Fig. 28).

Macropterosus form. Unknown.

Etymology. The name "flavinotum" refers to the distinctive yellowish pronotum of this species.

Discussion. *Sagocoris flavinotum* is similar in some respects to *S. intermedius* from the northern face of the Irian Jaya central highlands, but may be easily separated by the differently formed female abdominal segments and male genitalia (compare Figs. 12–14, 21 and 28–31). This species shows only the most incipient development of the female abdominal asymmetry that becomes progressively more pronounced in *S. intermedius*, *S. irianus*, *S. biroi* and *S. asymmetricus*. Taken in combination with *S. gressitti*, which displays no female abdominal asymmetry, the six known species of *Sagocoris* thus display a well defined morphocline in relation to the development of this character. If we exclude *S. gressitti*, which occurs at higher elevations than the other species and is the only species found both north and south of the central drainage divide, then the development of this abdominal asymmetry in *Sagocoris* becomes steadily more pronounced as one moves from west to east along the northern coast of New Guinea.

The few specimens of *S. flavinotum* so far taken have all come from the margins of rocky upland streams; the series from the Logari River tributary type locality was taken by scooping in the standing water beneath a fallen log in a sheltered side pool shallowly connected to the main stream channel.

Types. Holotype, brachypterous male, INDONESIA, **Irian Jaya Prov.**, rocky tributary to Logari River, approx. 0.5 km W of PTFI Landing Site 21, 3°00.45'S, 136°33.23'E, 295 m (970 ft), water temp. 25°C, 6 April 1998, 12:30–14:30 hr, CL 7091, D. A. Polhemus (LIPI). Paratypes: INDONESIA, **Irian Jaya Prov.**: 1 brachypterous male, 1 brachypterous female, same data as holotype (USNM); 1 brachypterous male, Logari River at PTFI Landing Site 21, 3°00.35'S, 136°33.34'E, 290 m (950 ft), water temp. 24°C, 7 April 1998, 09:00–14:00 hr, CL 7092, D. A. Polhemus (LIPI).

Aptinocoris Montandon, 1897

Figs. 36–74

Description. Moderate sized, ovate naucorids (Fig. 36), length 5.40–10.10; basic coloration dull yellowish brown with scattered dark brown or black markings on head, thorax, and dorsal abdomen; hemelytra and scutellum often predominantly brown. Brachypterous forms predominating. *Head* usually dark yellowish brown, with paired longitudinal stripes medially to either side of midline; eyes with dorsal surfaces not rising above plane of vertex, inner margins slightly convergent anteriorly, separated from vertex by shallow furrows, lateral flanges small, glabrous; posterior margin of vertex weakly and broadly rounded, weakly produced behind eyes; anteclypeus with anterior margin broadly rounded, barely projecting ahead of eyes, produced beyond labrum for distance less than length of labrum, with obvious notch above labral base; labrum roughly triangular, rounded distally; maxillary plates moderately developed, inner margins adjoining rostral cavity oriented vertically, anterior margins glabrous, carinate, forming sides of rostral cavity; rostrum extending beyond labrum; antennae slender, segments III and IV filiform (Fig. 38), not extending beyond eye margins. *Pronotum* usually dark yellowish, mottled centrally with dark brown at muscle attachments, weakly depressed medially behind vertex, lateral mar-

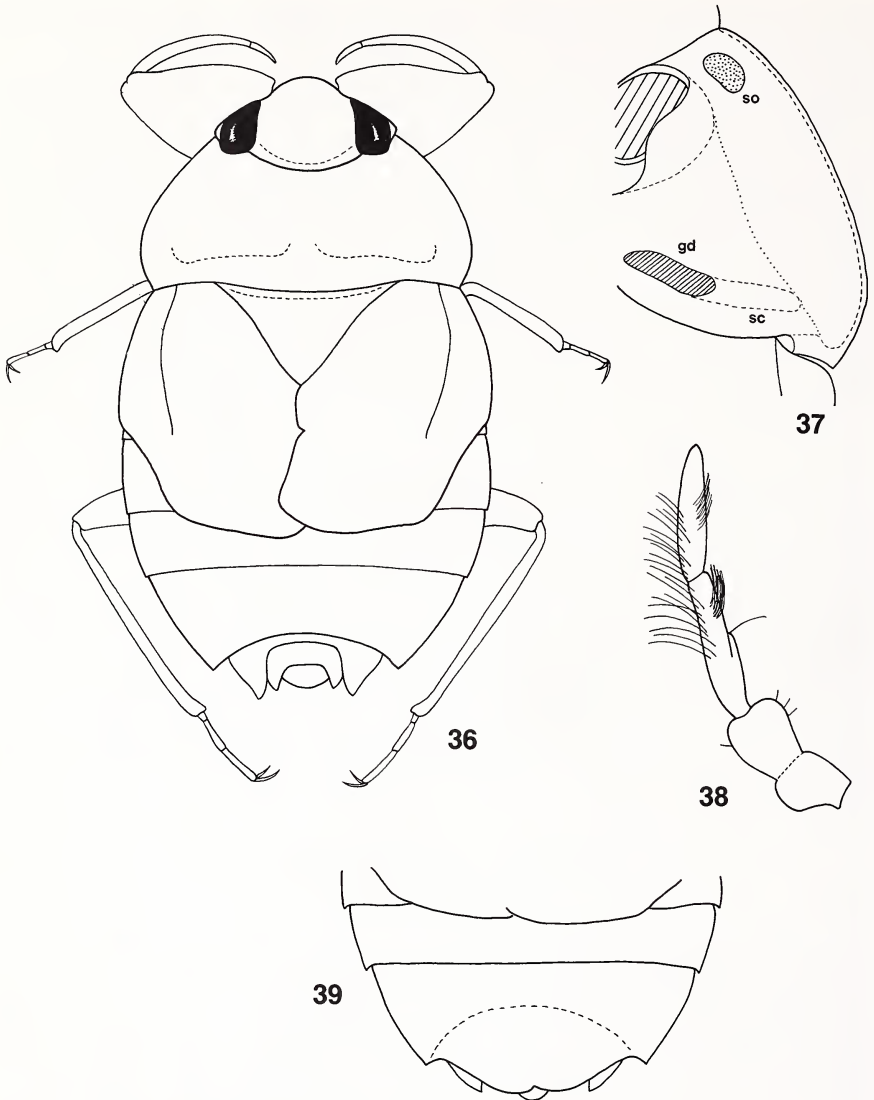
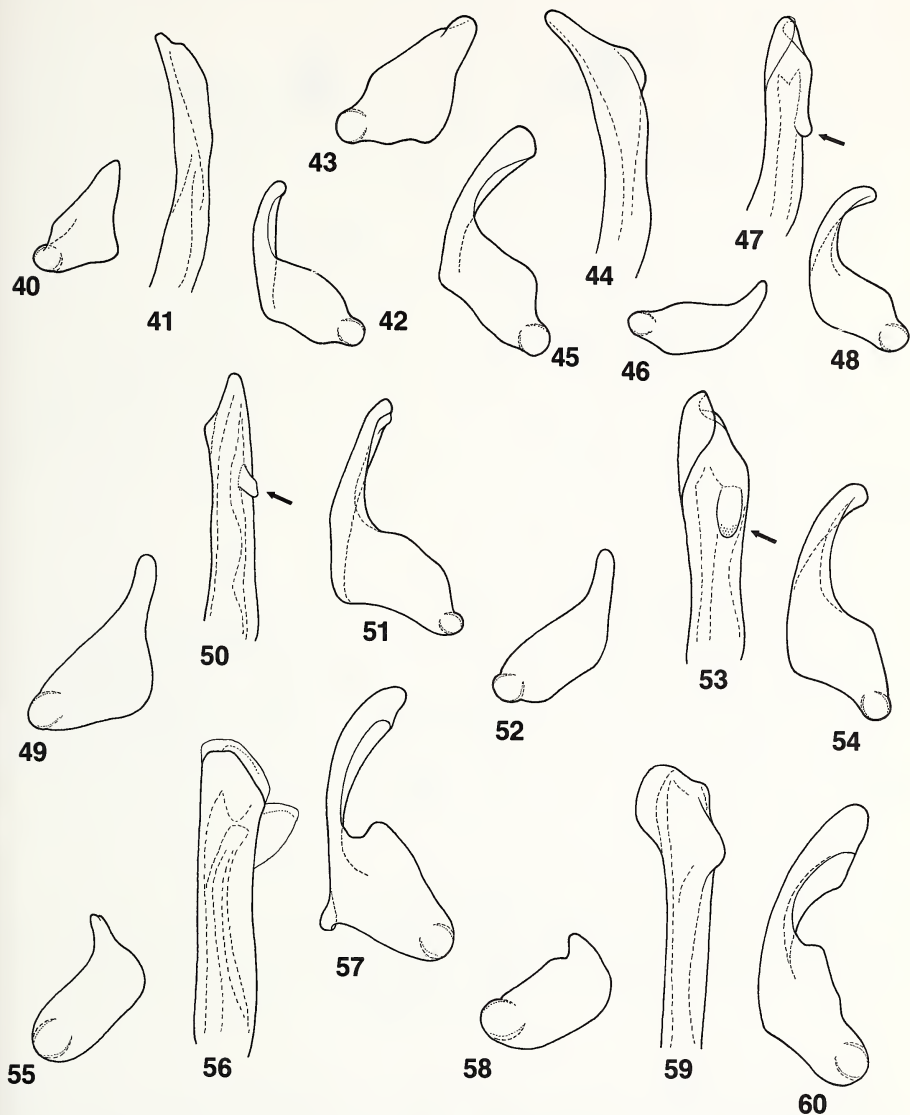


Fig. 36. *Aptinocoris sogeri*, brachypterous female, dorsal habitus.

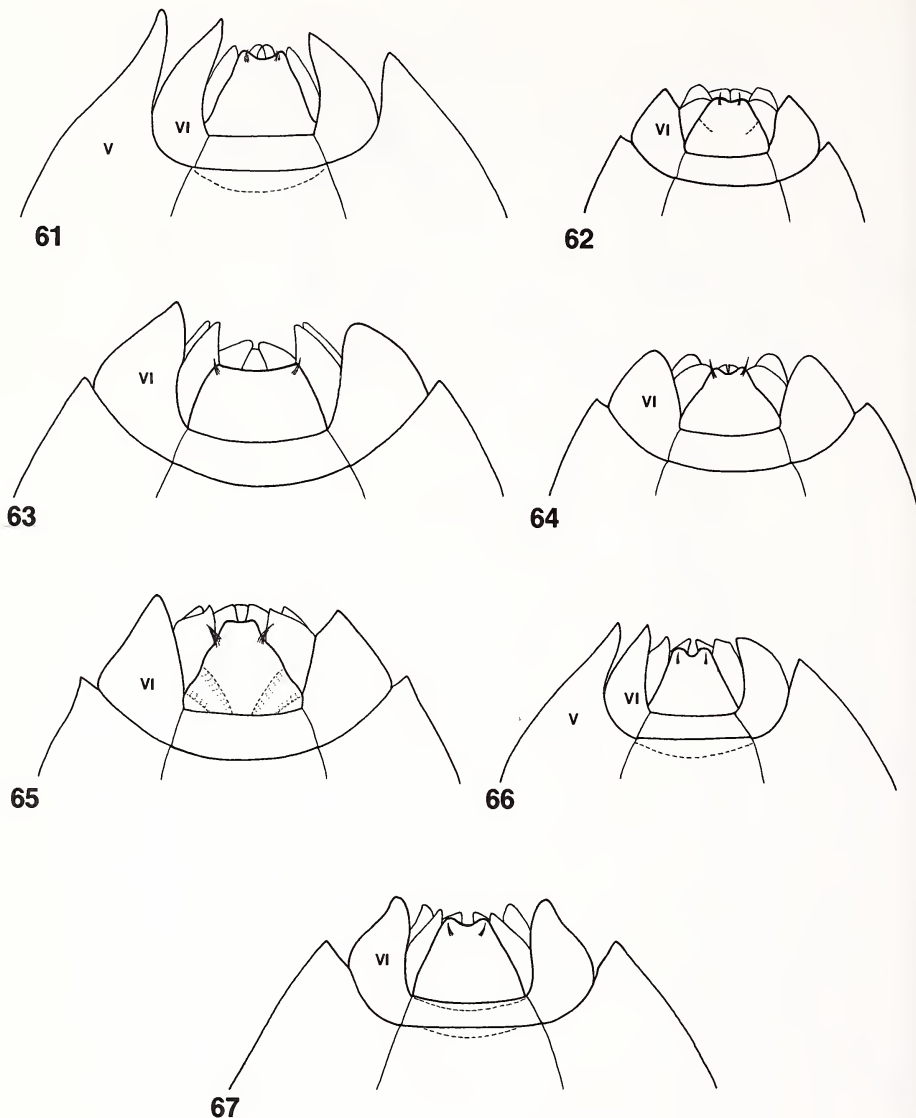
Fig. 37. *Aptinocoris sedlaceki*. Ventral view of propleuron, showing locations of hydrostatic sense organ (so), glabrous depression (gd), and associated elongate sulcus hypothesized to be a secretory channel (sc).

Fig. 38. *Aptinocoris boikiki*, structural details. Male right antenna, ventral view; note slender form of segments III and IV in relation to enlarged basal segments I and II.

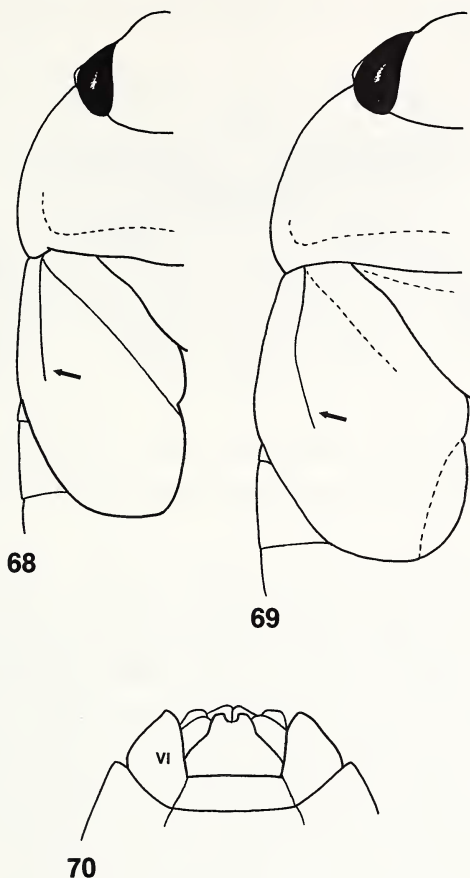
Fig. 39. Terminal male abdominal tergites, dorsal view, showing location of medial notch on tergite V; this notch cradles the phallosoma when the latter structure is everted from the genital capsule.



Figs. 40–60. Male genitalia of *Aptinocoris* species; all structures in dorsal view, as seen when at rest in genital capsule. Arrows indicate locations of lightly sclerotized preapical lobes on the phallosoma of certain species. Figs. 40–42, *A. fenneri*. 40. Left paramere. 41. Phallosoma. 42. Right paramere. Figs. 43–45, *A. boikiki*. 43. Left paramere. 44. Phallosoma. 45. Right paramere. Figs. 46–48, *A. minutus*. 46. Left paramere. 47. Phallosoma. 48. Right paramere. Figs. 49–51, *A. sogeri*. 49. Left paramere. 50. Phallosoma. 51. Right paramere. Figs. 52–54, *A. papuus*. 52. Left paramere. 53. Phallosoma. 54. Right paramere. Figs. 55–57, *A. cheesmanae*. 55. Left paramere. 56. Phallosoma. 57. Right paramere. Figs. 58–60, *A. sedlaceki*. 58. Left paramere. 59. Phallosoma. 60. Right paramere.



Figs. 61–67. Ventral views of terminal female abdominal structures in *Aptinocoris* species, with the relative positions of paratergites V and/or VI indicated. 61. *A. boikiki*. 62. *A. minutus*. 63. *A. cheesmanae*. 64. *A. papuus*. 65. *A. sedlaceki*. 66. *A. fenneri*. 67. *A. sogeri*.



Figs. 68, 69. *Aptinocoris* species, details of pronotum and left hemelytron in brachypterous forms. Arrows indicate posterior terminus of embolar furrow. 68. *A. ziwa*. 69. *A. papuus*.

Fig. 70. *Aptinocoris ziwa*, terminal female abdominal structures, ventral view, with the relative position of paratergite VI indicated.

gins narrowly glabrous, broadly arcuate, posterolateral angles acute, posterior margin bisinuate. Scutellum generally dark brown, lateral margins sinuate, transverse sulcus present along anterior margin. Hemelytra predominantly dark brown, surface of corium coarsely rugose; membrane extremely reduced, obscure; hemelytra posteriorly truncate in brachypterous forms, extending to middle of abdominal tergite IV; embolium demarcated by deep narrow sinuate furrow along inner margin, posterior margin obscure, lateral margin narrowly glabrous, bearing fringe of long recumbent gold setae; hemelytral commissure with small triangular tab on left hemelytron fitting into corresponding triangular indentation on right hemelytron. *Abdomen* with lateral portions of tergites II and III, lateral and posterior portions of tergite IV, and entirety of tergites V–VII exposed in both sexes when viewed dorsally; male with lateral

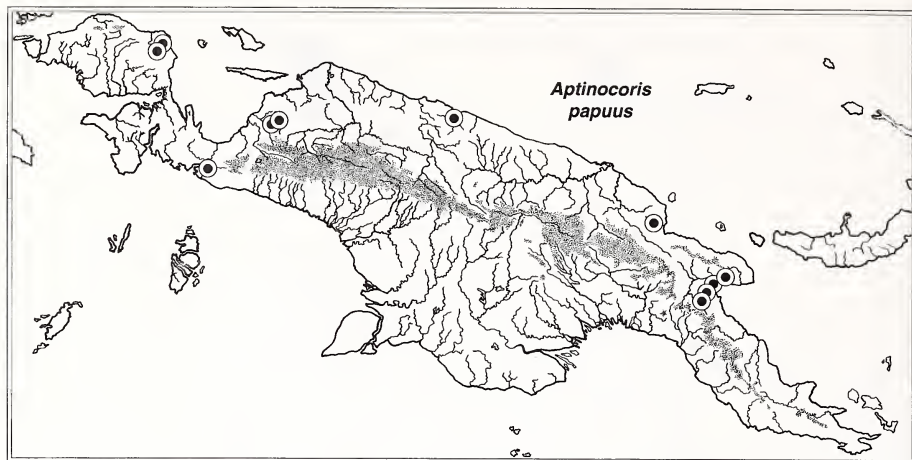


Fig. 71. Distribution of *Aptinocoris papuus* in New Guinea.

portions of tergite VIII also visible from above; tergite V in males usually weakly asymmetrical, with a posteromedial indentation slightly offset to right of center as viewed from above (Fig. 39); angles of segments V and VI in females often asymmetrical to varying degrees, sometimes strongly so, with posterolateral angles more highly produced on left side (Figs. 61–67). *Ventral surface* of head, prosternum, mesosternum centrally and abdomen covered with thick recumbent gold hydrofuge pile; head with glabrous median longitudinal keel, this becoming more pronounced posteriorly, meeting similar and continuous but more pronounced structure on prosternum; proepimeron densely covered with very short fine recumbent gold setae, inner proepimeral projections not touching medially, posterior section of proepimeron with deep glabrous depression, flanked laterally by elongate sulcus leading laterally toward posterolateral angle (Fig. 37), hydrostatic sense organs present as ovate depressed patches at anterolateral angles (Fig. 37); mesosternal plate sharply reflexed along anterior margin, coming to acute subconical point anteromedially, this point separated by transverse sulcus from broad tumescence posteromedially; abdominal paratergites III–VI with paired elongate glabrous openings in the hydrofuge pile adjacent to spiracle, spiracle represented by small raised protruberance thickly covered with gold hydrofuge setae, paratergites II and VII each with single glabrous openings, all paratergites with lateral margins narrowly glabrous. *Legs* generally dark yellowish, anterior femur with thick pad of gold setae along anterior margin, fringe of long gold setae along posterior margin; anterior tibia slender, gently curving, with short gold setae along inner face, anterior tarsi single segmented, claw tiny, obscure, single, fused to tarsus; middle and hind coxae bearing large glabrous tubercles distally; middle and hind trochanters with narrow longitudinal fringe of short thick gold setae distally on posterior margins; middle and hind femora lacking spines along anterior margins, but bearing continuous longitudinal rows of short sharp spines along posterior margins on dorsal and ventral faces; middle and posterior tibiae and posterior tarsi thickly set with longitudinal rows of stout reddish spines, these spines



Fig. 72. Distribution of *Aptinocoris* species in New Guinea.

longer and more dense distally, middle and hind tibiae also with several transverse rows of stout spines apically; middle and hind tarsi lacking spines dorsally, bearing longitudinal rows of short reddish spines ventrally; middle and posterior femora, tibiae, and tarsi set with long gold swimming hairs along posterior margins; claws gold, sharply bent, parempodia setiform. *Male genitalia* with parameres asymmetrical; left paramere greatly reduced (Figs. 40, 43, 46, 49, 52, 55, 58), right paramere larger, with an elongate, curving distal arm (Figs. 42, 45, 48, 51, 54, 57, 60); male phallosoma asymmetrical, tip often expanded and bearing lightly sclerotized preapical lobes (Figs. 41, 44, 47, 50, 53, 56, 59). *Female subgenital plate* roughly trapezoidal, symmetrical, tip often broadly and shallowly concave (Figs. 61–67, 70).

Macropterous forms. Similar to brachypterous forms in general structure and coloration, with following exceptions: pronotum slightly expanded, with posterolateral angles less acute; scutellum weakly raised; hemelytra with claval and embolar sutures well defined; membrane fully developed, reaching to base of genital segment, lacking evident venation.

Discussion. The shape of the right paramere in *Aptinocoris* is relatively conservative, but shows two basic trends. In *A. cheesmanae* and *A. sedlaceki*, the tip of the paramere is slightly expanded (Figs. 57, 60), and resembles the shape seen in *Sagocoris*. In the remaining species the tip of the paramere is more slender (Figs. 42, 45, 48, 51, 54) and begins to approach the condition seen in *Idiocarus*. The shape of the left paramere is by contrast quite variable, and more diagnostic of individual species, but in all cases this structure is reduced in comparison to the right paramere (Figs. 40, 43, 46, 49, 52, 55, 58). The phallosoma is asymmetrical, and often has lightly sclerotized preapical lobes at or near the tip (Figs. 41, 44, 47, 50, 53, 56, 59). The renderings provided should be taken as approximate, since these lobes are somewhat delicate and can be damaged during dissection. The sclerotized portion of the phallosoma is less extensive than in *Sagocoris* and usually forms an acute angle at the tip.

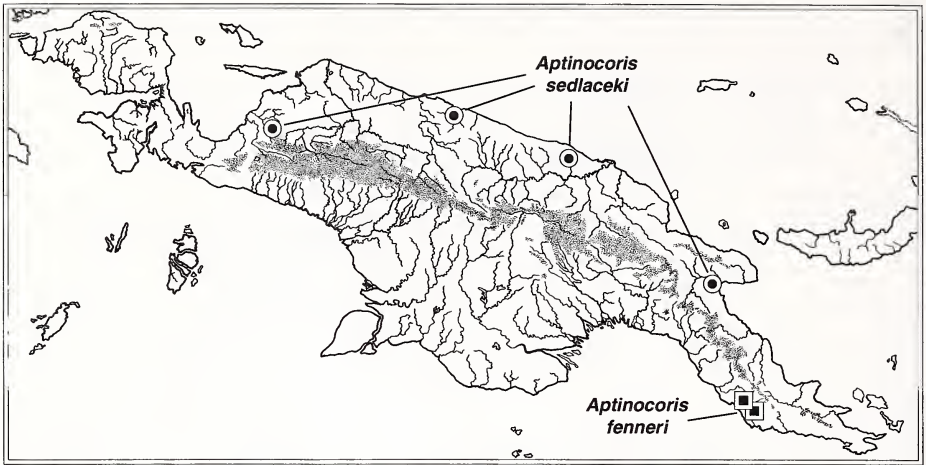


Fig. 73. Distribution of *Aptinocoris* species in New Guinea.

In general, *Aptinocoris* species occur in faster waters than *Sagocoris* species, and this coupled with their abbreviated hemelytra and incipient hydrostatic sense organ on the proepimeron suggests that they may employ a plastron for respiration.

Aptinocoris papuus Montandon

Figs. 52–54, 64, 71

Aptinocoris papuus Montandon, 1897: 64.

Sagocoris browni, La Rivers, 1971:42 **new synonymy**

Diagnosis. This species may be distinguished by its relatively small size (overall length less than 8.0 mm), the absence of abdominal asymmetry in the females of most populations (Fig. 64), and by the structure of the male genitalia (Figs. 52–54), with the left paramere bearing an elongate tip that causes it to appear more similar in size to the right paramere, rather than being clearly reduced and truncate as in most other members of the genus.

Supplemental redescription of holotype. General coloration yellowish brown, with scutellum, hemelytra excluding embolium, lateral margins of all exposed abdominal tergites, and muscle scars on head and pronotum darker brown; eyes black. Body length 7.14, maximum width (across base of abdomen) 3.85; head length 1.40, width 1.89, anterior/posterior interocular 1.05/1.26, eye length 0.77, width 0.35; pronotum length (midline) 1.12, width 3.36; scutellum length 1.12, width 2.10. Hemelytra brachypterous, truncate, posterior margins squared off and perpendicular to the long axis of the body.

Material examined. INDONESIA, **Irian Jaya Prov.:** 1 brachypterous female, Hatam [Arfak Mtns., Vogelkop Peninsula], VI-1875, Beccari (holotype, MSNG); 13 brachypterous males, 10 brachypterous females, 5 immatures, small rocky stream at Aimasi Hulu, Arfak Mtns., 65 km SW of Manokwari, 140 m (450 ft), water temp.

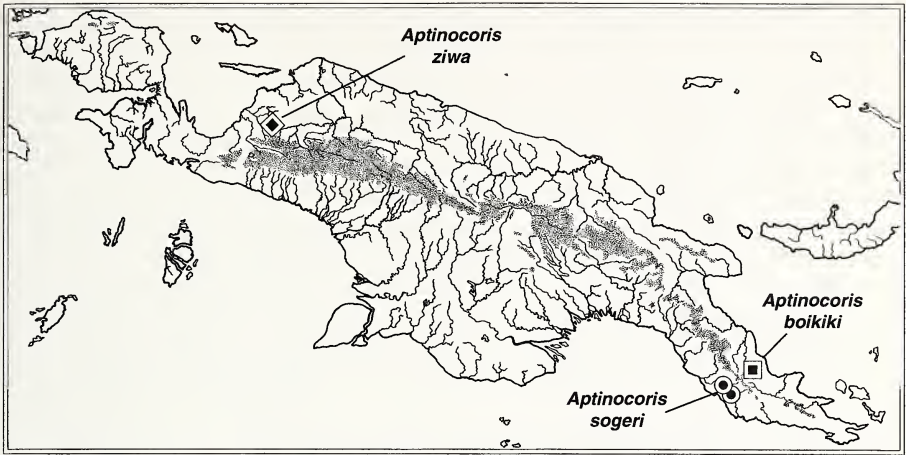


Fig. 74. Distribution of *Aptinocoris* species in New Guinea.

25°C, 19 October 1991, CL 2649, D. A. and J. T. Polhemus (JTTC, BPBM, LIPI); 5 brachypterous males, 6 brachypterous females, 1 immature, Prafi River, Arfak Mtns., 48 km SE of Manokwari, 215 m (700 ft), water temp. 26.5°C, 19 October 1991, CL 2652, D. A. and J. T. Polhemus (JTTC, BPBM, LIPI); 4 macropterous males, 4 macropterous females, 5 brachypterous males, 5 brachypterous females, 4 immatures, Subsary River, Arfak Mtns., 45 km SE of Manokwari, 120 m (400 ft), water temp. 29°C, 19 October 1991, CL 2653, D. A. and J. T. Polhemus (JTTC, BPBM, LIPI); 1 brachypterous male, Gen. Major Quantkamp, N of Lake Sentani, Ifar, 450 m (1,475 ft), 30 November 1955, L. D. Brongersma (RNHL); 1 brachypterous female, Hollandia [Jayapura], April 1945, B. Malkin (CAS); 2 brachypterous males, 2 brachypterous females, small rocky stream along N side of PTFI Etna Bay exploration camp, head of Etna Bay, 0–60 m (0–200 ft), 3°58.10'S, 134°57.68'E, water temp. 25–27°C, 28–29 March 1997, CL 7077, D. A. and J. T. Polhemus (USNM); 1 macropterous male, cobble bottomed overflow channel adjoining Tira-wiwa River, 0.5 km W of PTFI Siewa exploration camp, 3°02.66'S, 136°22.34'E, 60 m (200 ft), water temp. 28°C, 3 April 1998, 12:00–15:15 hr, CL 7086, D. A. Polhemus (USNM); 1 brachypterous male, 2 brachypterous females, rainforest stream approx. 0.5 km E of PTFI Siewa exploration camp, 3°02.14'S, 136°22.66'E, 60 m (200 ft), water temp. 26°C, 5 April 1998, 08:00–11:00 hr, CL 7089, D. A. Polhemus (USNM, LIPI); 1 brachypterous female, Logari River and tributaries at PTFI Landing Site 21, 3°00.35'S, 136°33.34'E, 290 m (950 ft), water temp. 24°C (main river), 7 April 1998, 09:00–14:00 hr, CL 7092, D. A. Polhemus (LIPI). **PAPUA NEW GUINEA, Madang Prov.:** 2 brachypterous males, 3 brachypterous females, Gum River nr. Ohu, 11 km W of Madang, 80 m (260 ft), 27 March 1994, water temp. 28°C, 10:00–14:00 hr, CL 7035, D. A. Polhemus (BPBM). **Morobe Prov.:** 1 macropterous male, Lae, Bubia, 23 November 1956, E. S. Brown (holotype of *Sagocoris browni* La Rivers, BMNH); 10 brachypterous males, 13 brachypterous females, Oomsis, 35 km SW of Lae, 14 September 1983, CL 1810, J. T. and D. A. Polhemus (JTTC); 1

brachypterous female, Perenin River along Wau road, 15 September 1983, CL 1813, J. T. and D. A. Polhemus (JTPC); 4 brachypterous males, 5 brachypterous females, 1 immature, creek 18 km NW of Lae, 20 September 1983, CL 1837, J. T. and D. A. Polhemus (JTPC); 2 females, Lae, Bubia, 23 September 1956, E. S. Brown (CAS); 1 brachypterous female, Lae, 26 November 1961, J. Sedlacek (paratype, BPBM).

Discussion. This species was described by Montandon (1897) from a single specimen of unspecified sex collected by Odoardo Beccari in 1875 in the vicinity of Hatam, a village in the Arfak Mountains of the Vogelkop Peninsula.

La Rivers, while preparing his 1971 monograph of New Guinea naucorids, did not examine Montandon's holotype, basing his redescription instead on a single Montandon determined specimen, now housed in the California Academy of Sciences, San Francisco. We have examined this specimen, which bears the labels "D. N. Guinea, Sattelberg" and "Aptinocoris papuus Montandon, var., Id. Montandon 1913," the latter label handwritten in Montandon's own script. La Rivers interpreted the locality label to refer to Dutch New Guinea, whereas in fact it stands for Deutsch New Guinea. Sattelberg was a former German settlement lying at 900 m elevation near the tip of the Huon Peninsula north of present day Lae, and a site for many early montane biological collections in New Guinea.

After a diligent search, the actual holotype of *A. papuus* was located in the Museo di Storia Naturale "Giacomo Doria" in Genoa, Italy. It is a brachypterous female in excellent condition and glued to a card; a supplemental redescription of this specimen is provided above. The specimen bears the labels "N. Guinea, Hatam, VI-1875, Beccari," a red printed "Typus" label, and a label in Montandon's handwriting reading "Aptinocoris papuus, Mont., typus!" This specimen is not conspecific with the Sattelberg specimen determined as *A. papuus* by La Rivers (1971); the latter specimen in fact represents a new species, *Aptinocoris minutus*, which is described subsequently.

La Rivers (1971) described *Sagocoris browni* from a female taken at "Lae, Bubia," a locality in northeastern Papua New Guinea, by E. S. Brown. This species actually constitutes a member of the genus *Aptinocoris* as defined herein, and is nearly identical to *A. papuus*. The overall size, shapes of the male parameres and phallosoma, and shape of the female subgenital plate are the same between the two species, the only substantive difference between the taxa being the slight prolongation of the left posterolateral angle of abdominal tergite V in females of *S. browni* in comparison to those of *A. papuus*, where such prolongation is absent. An analysis of populations from throughout New Guinea demonstrates that this abdominal asymmetry is intraspecifically variable within *A. papuus*, with populations from Etna Bay and the Wapoga River basin having no asymmetry, populations from the Arfak Mountains of the Vogelkop Peninsula showing incipient asymmetrical development, and certain populations from northeastern Papua New Guinea having the asymmetry moderate to well developed. Given this variability, and the congruence of all other taxonomically important features among these populations, *S. browni* is herein considered a synonym of *A. papuus*.

Small specimens of *A. papuus* may also be potentially confused with *A. ziwa* n. sp., from northern central Irian Jaya, but brachypterous females of the two species (the only form so far known for *A. ziwa*) are easily separated by the shape of the

embolar furrow on the hemelytron, which runs roughly parallel to the hemelytral margin in *A. ziwa*, but curves broadly inward posteriorly in *A. papuus* (compare Figs. 68, 69).

Aptinocoris papuus is widely distributed in northern New Guinea, from the Huon Peninsula and Hertzog Mountains of Papua New Guinea west to the Vogelkop Peninsula of Irian Jaya (Fig. 71). The specimens from the Vogelkop area are somewhat larger than those from the Cyclops Mountains and Papua New Guinea, but exhibit no other substantive differences. This species is typically found in small, clear streams, where individuals occur amid rocks and cobbles in midstream, often in areas of high current velocity.

The male from Ifar in the Leiden collection and the two female specimens from Buba in the California Academy of Sciences bear La Rivers labels reading "*Sagocoris distolus* PARATYPE," a name with no validity.

***Aptinocoris minutus* new species**

Figs. 46–48, 62, 72

Diagnosis. *Aptinocoris minutus* is the smallest naucorid known from New Guinea, and may be recognized by its reduced size (overall length less than 7.0 mm), the lack of abdominal asymmetry in the female (Fig. 62), the structure of the male genitalia (Figs. 46–48), and the predominantly light brown coloration, particularly the yellowish pronotum that contrasts sharply with the brown hemelytra.

Description. *Brachypterous form.* Small for genus, form ovate, basic coloration pale yellowish brown with limited brown markings on pronotum, hemelytra uniformly pale brown. Male length 5.40, maximum width (across abdomen) 3.10; female length 6.15, maximum width 3.20. *Head* pale yellowish brown, becoming darker brown along posterior margin, with faint paired longitudinal brown stripes medially to either side of midline, width/length = 1.55/0.80; eyes black, shining, width/length = 0.37/0.50, inner margins convergent anteriorly, separated from vertex by shallow furrows, anterior/posterior interocular width = 0.85/1.00, lateral flange small, glabrous; posterior margin of vertex weakly and broadly rounded, weakly produced behind eyes; anteclypeus with anterior margin broadly rounded, barely projecting ahead of eyes, produced beyond labrum for distance less than length of labrum, with obvious notch above labral base; labrum roughly triangular, rounded distally, yellowish brown; rostrum yellowish basally, second segment gold, glabrous, extending beyond labrum; antennae slender, filiform, not extending beyond eye margins, basal segments bearing slender gold setae, segment IV glabrous. *Pronotum* pale yellowish brown, bearing limited brown markings to either side of midline at muscle attachments, weakly depressed medially behind vertex, width/length (midline) = 2.90/0.90, lateral margins arcuate, posterolateral angles acute, posterior margin bisinuate. *Scutellum* pale yellowish brown, lateral margins narrowly darker, width/length (midline) = 1.75/0.75, lateral margins very weakly sinuate, transverse sulcus present along anterior margin. *Hemelytra* pale brown, yellowish on basal $\frac{1}{2}$ of embolium; surface of corium coarsely rugose, membrane reduced, obscure, hemelytra truncate posteriorly, extending only to middle of abdominal tergite IV, embolium demarcated by deep narrow sinuate furrow along inner margin, posterior margin obscure, lateral margin narrowly glabrous, bearing fringe of long recumbent gold setae. *Abdomen* with all visible

tergites uniformly yellowish brown; posterolateral angles of all tergites bearing slender tufts of elongate gold setae; posterolateral angles of segments II–V in both males and females not produced or spinose; posterolateral angles of segments VI–VIII in male angulate, symmetrical, posteromedial portion of male tergite V symmetrical, lacking a small central notch; segments VI–VII of female symmetrical, angulate (Fig. 62). *Ventral surface* light brown, with head, prosternum, mesosternum centrally and abdomen covered with thick recumbent gold hydrofuge pile; mesosternal plate sharply reflexed along anterior margin, forming a rounded tumescence anteromedially, this tumescence separated by transverse sulcus from broader tumescence posteromedially. *Legs* pale yellowish brown, anterior femur with thick pad of gold setae along anterior margin, fringe of long gold setae along posterior margin; anterior tibia slender, gently curving, with short gold setae along inner face; middle and hind coxae each bearing a single large glabrous tubercle distally, lacking rows of short reddish spines ventrally; middle and hind trochanters with narrow longitudinal fringe of short thick gold setae distally on posterior margins; middle and hind femora lacking spines along anterior margins, but bearing continuous longitudinal rows of short sharp spines along posterior margins on dorsal and ventral faces; middle and posterior tibiae and posterior tarsi thickly set with longitudinal rows of stout reddish spines, these spines longer and more dense distally, middle and hind tibiae also with single transverse row of stout spines apically; middle and hind tarsi lacking spines dorsally, bearing longitudinal rows of short reddish spines ventrally; middle and posterior femora, tibiae, and tarsi set with long gold swimming hairs along posterior margins; claws gold, sharply bent. *Male genitalia* with parameres asymmetrical; left paramere small, broadly and roughly falciform, tip narrowed and rounded (Fig. 46); right paramere larger, strongly curving, with slender distal arm, tip of arm not expanded (Fig. 48); male phallosoma slender, tip tapering, rounded (Fig. 47). *Female subgenital plate* roughly trapezoidal, symmetrical, posterior margin with weak medial concavity, small hair tufts present behind posterior margin to either side of medial concavity (Fig. 62).

Macropterous form. Unknown.

Types. Holotype, brachypterous male, PAPUA NEW GUINEA, **East Sepik Prov.:** rainforest stream nr. Pasam, upper Nagam River drainage, 300 m (984 ft), CL 1798, 10 September 1983, J. T. and D. A. Polhemus (BPBM). Paratypes: PAPUA NEW GUINEA, **East Sepik Prov.:** 1 brachypterous female, same data as holotype (JTPC). **Morobe Prov.:** 1 brachypterous male, D. N. Guinea [=Deutsch New Guinea], Sattelberg [900 m] (det. by Montandon as "A. papuus var.," CAS).

Discussion. This small species was confused by La Rivers (1971) with *Aptinocoris papuus* Montandon, based a specimen determined by Montandon. An examination of the holotype of *A. papuus*, however, shows the two species to be quite distinct (see foregoing discussion under *A. papuus*).

The few specimens examined have all come from moderate elevations in the mountains bordering the north coast of the island, from the Prince Alexander Mountains eastward to the Huon Peninsula (Fig. 72). The two specimens from Pasam, in the Prince Alexander Mountains, were taken from rushing water in a narrow limestone channel with a gravel substrate, mostly shaded by disturbed primary rain forest.

Aptinocoris sedlaceki (La Rivers) **new combination**

Figs. 58–60, 65, 73

Sagocoris sedlaceki La Rivers, 1971: 47.

Diagnosis. This moderate sized species may be recognized by its somewhat elongate form, the weak asymmetry of the female abdominal paratergites (Fig. 65), the shape of the female subgenital plate (Fig. 65), and the structure of the male genitalia. It is most similar to *A. papuus*, which is smaller, usually lacks female abdominal asymmetry (Fig. 64), and has a male left paramere with a more produced and elongate tip (Figs. 52, 54), in comparison to the reduced, truncate shape seen in *A. sedlaceki* (Figs. 58, 60).

Material examined. PAPUA NEW GUINEA, **Morobe Prov.:** 1 brachypterous female, Lae Bubia, 23 November 1956, E. S. Brown (holotype, BMNH); 18 brachypterous males, 17 brachypterous females, 3 immatures, 39 km SW of Lae along Wau Road, CL 1813, 15 September 1983, J. T. and D. A. Polhemus (JTPC). **East Sepik Prov.:** 5 macropterous males, 3 macropterous females, 1 brachypterous male, 3 brachypterous females, 1 immature, Nagam River, 3 km S of Pasam, 10 September 1983, CL 1799, D. A. and J. T. Polhemus (JTPC); 1 macropterous female, 6 brachypterous males, 2 brachypterous females, 1 immature, Nagam River, 17 mi SE of Wewak, 6 July 1969, I. La Rivers (CAS). INDONESIA, **Irian Jaya Prov.:** 4 brachypterous males, 2 brachypterous females, Joka, Lake Sentani, 140°37'24"E, 2°36'24"S, 20 October 1954, L. D. Brongersma c. s. (RNHL, CAS); 1 brachypterous female, 1 immature, Jaka Gy, Hollandia [Jayapura], 27 December 1953, L. van der Hammen (RNHL); 1 macropterous male, 3 brachypterous males, 8 brachypterous females, cobble bottomed overflow channel adjoining Tirawiwa River, 0.5 km W of PTFI Siewa exploration camp, 3°02.66'S, 136°22.34'E, 60 m (200 ft), water temp. 28°C, 3 April 1998, 12:00–15:15 hr, CL 7086, D. A. Polhemus (USNM); 1 brachypterous male, 8 brachypterous females, rainforest stream approx. 0.5 km E of PTFI Siewa exploration camp, 3°02.14'S, 136°22.66'E, 60 m (200 ft), water temp. 26°C, 5 April 1998, 08:00–11:00 hr, CL 7089, D. A. Polhemus (USNM).

Discussion. This is a moderate sized species occurring in the northern coastal ranges of New Guinea, and seems to be somewhat local in its distribution, with scattered records from the Wapoga River drainage eastward to the Huon Gulf (Fig. 73). Specimens from different parts of this range vary in size, with those from Lake Sentani, in Irian Jaya, being smaller than those taken near the type locality at Lae, in Papua New Guinea, while others from the Siewa area in the upper Wapoga River area of Irian Jaya are larger. Similarly, specimens from the Nagam River, near Wewak, are more contrastingly marked than those from Lae, but once again show no significant morphological differences. Since the male and female genitalia are basically the same across all the above populations, they are interpreted to be simply regional variants in the context of this work.

As interpreted above, *Aptinocoris sedlaceki* occurs in a wide range of habitats. These include open, unshaded streams with moderate current and shallow, gravelly riffles, such as the Nagam River or the Tirawiwa River overflow channels, as well as smaller, shaded forest streams, such as those near Siewa and Lae. At the latter locality the series was taken from beneath submerged logs swept by the current.

Several specimens in the above series from RNHL and CAS bear La Rivers labels reading "*Sagocoris soldus* PARATYPE," a name that has no validity.

Aptinocoris cheesmanae (La Rivers) **new combination**

Figs. 55–57, 63, 72

Sagocoris cheesmanae La Rivers, 1971: 44.

Diagnosis. This species may be recognized by the structure of the female subgenital plate (Fig. 63) and male genitalia (Figs. 55–57).

Material examined. INDONESIA, **Irian Jaya Prov.:** 1 male, 2 females, Waigeo Island, Camp Nok, 760 m, (2,500 ft), April, 1938, L. E. Cheesman (JTPC, CAS).

Discussion. This is a moderately large species that appears to be endemic to Waigeo Island, which lies offshore of New Guinea proper to the northwest of the Vogelkop Peninsula (Fig. 72). It is known only from the short original type series collected by Cheesman, and no information is available regarding its habitat preferences.

The one female in the California Academy of Sciences bears the La Rivers label "*Sagocoris orthus* PARATYPE," a name that has no validity.

Aptinocoris fenneri (La Rivers) **new combination**

Figs. 40–42, 66, 73

Sagocoris fenneri La Rivers, 1971: 49.

Diagnosis. This species is similar to *A. boikiki*, sharing a pronounced asymmetry of abdominal paratergites V and VI in females. It may be separated from that species by its smaller size (overall length less than 9.0 mm), and differing structure of the female subgenital plate (Fig. 66) and male genitalia (Figs. 40–42).

Material examined. PAPUA NEW GUINEA, **Central Prov.:** 4 macropterous females, 29 brachypterous males, 14 brachypterous females, 3 immatures, Musgrave (Aieme) River at Awarere Plantation, 22 September 1983, CL 1841, J. T. and D. A. Polhemus (JTPC); 1 macropterous male, 1 brachypterous female, stream nr. Musgrave River, 22 September 1983, CL 1842, J. T. and D. A. Polhemus (JTPC); 6 brachypterous males, 3 brachypterous females, Bworoogo Creek, 12 km E of Sogeri, 500 m (1,640 ft), 22 September 1983, CL 1843, J. T. and D. A. Polhemus (JTPC); 1 brachypterous female, Laloki River nr. Sogeri, 22 September 1983, CL 1844, J. T. and D. A. Polhemus (JTPC); 6 macropterous males, 5 macropterous females, 13 brachypterous males, 11 brachypterous females, 4 immatures, Laloki River, 15 km N of Port Moresby, 23 September 1983, CL 1845, J. T. and D. A. Polhemus (JTPC); 5 brachypterous males, 7 brachypterous females, Crystal Rapids, nr. Sogeri River, 25 August 1985, J. W. Ismay and S. Langley (JTPC); 1 brachypterous male, 1 brachypterous female, Port Moresby, 21 June 1969, I. La Rivers (paratypes, JTPC).

Discussion. *Aptinocoris fenneri* appears to be confined to the southern section of the Papuan Peninsula (Fig. 73), and is moderately abundant in rocky streams near Port Moresby. The species sometimes occurs in company with *A. sogeri*, but the two species appear to segregate habitats; at the Musgrave River, *A. fenneri* was found in a shallow tributary to the main river with a gravel bottom and moderate current speed, whereas *A. sogeri* occurred in the larger, deeper main river, where it was found among rocks at the heads of swift riffles.

Aptinocoris boikiki new species

Figs. 38, 39, 43–45, 61, 74

Diagnosis. This species, the largest known in the genus, is closely related to *A. fenneri*, but may be separated by its larger size (body length exceeding 10 mm), and differences in the structure of the female subgenital plate (compare Figs. 61, 66) and male genitalia (compare Figs. 43–44, 40–42). Both *A. boikiki* and *A. fenneri* share a pronounced asymmetry of the female abdomen, with left side paratergites V and VI being enlarged and prolonged (Figs. 61, 66).

Description. *Brachypterous form.* Large for genus, form ovate, basic coloration dull yellowish brown with scattered dark brown or black markings on head, thorax, and dorsal abdomen; hemelytra and scutellum predominantly brown. Male length 10.10, maximum width (across abdomen) 6.00; female length 10.25, maximum width 6.00. *Head* dark yellowish brown, with paired longitudinal stripes medially to either side of midline, width/length = 2.90/1.60; eyes brown, shining, width/length = 0.60/1.05, inner margins convergent anteriorly, separated from vertex by shallow furrows, anterior/posterior interocular width = 1.50/1.65, lateral flange small, glabrous; posterior margin of vertex weakly and broadly rounded, weakly produced behind eyes; anteclypeus with anterior margin broadly rounded, barely projecting ahead of eyes, produced beyond labrum for distance less than length of labrum, with obvious notch above labral base; labrum roughly triangular, rounded distally, yellowish brown; rostrum yellowish basally, second segment gold, glabrous, extending beyond labrum; antennae slender, segments III and IV filiform (Fig. 38), not extending beyond eye margins, basal segments bearing slender gold setae, segment IV glabrous. *Pronotum* dark yellowish, mottled centrally with dark brown at muscle attachments, weakly depressed medially behind vertex, width/length (midline) = 5.30/2.00, lateral margins narrowly glabrous, broadly arcuate, posterolateral angles acute, posterior margin bisinuate. *Scutellum* dark brown, width/length (midline) = 2.80/1.40, lateral margins sinuate, transverse sulcus present along anterior margin. *Hemelytra* dark brown, lighter brown narrowly bordering scutellum, along claval commissure, and on basal $\frac{3}{4}$ of embolium, each hemelytron also with two small dark yellow spots, one near inner posterior margin of embolium, another at posteromedial apex of corium, surface of corium coarsely rugose; membrane extremely reduced, obscure; tips of hemelytra truncate, extending to middle to abdominal tergite IV; embolium demarcated by deep narrow sinuate furrow along inner margin, posterior margin obscure, lateral margin narrowly glabrous, bearing fringe of long recumbent gold setae. *Abdomen* with all visible tergites uniformly dark yellowish laterally, becoming embrowned centrally; posterolateral angles of all tergites bearing slender tufts of elongate gold setae; posterolateral angles of segment III in both males and females not produced or spinose, posterolateral angles of segments IV and V in both sexes weakly produced and angulate; posterolateral angles of segments VI–VIII in male acutely angulate, symmetrical, with tips slightly produced, posteromedial portion of male tergite V weakly asymmetrical, with a small central notch offset slightly to right of center as viewed from above (Fig. 39); segments V and VI of female strongly asymmetrical, posterolateral angles produced, acuminate, and spinose on left side (Fig. 61), posterolateral angles of segments VII and VIII symmetrical, angulate. *Ventral surface* light brown, with head, prosternum, mesosternum centrally and abdomen covered with thick re-

cumbent gold hydrofuge pile; mesosternal plate sharply reflexed along anterior margin, coming to acute subconical point anteromedially, this point separated by transverse sulcus from broad tumescence posteromedially. Legs dark yellowish, anterior femur with thick pad of gold setae along anterior margin, fringe of long gold setae along posterior margin; anterior tibia slender, gently curving, with short gold setae along inner face; middle and hind coxae each bearing single row of short reddish spines ventrally, terminating in a single large glabrous tubercle distally; middle and hind trochanters with narrow longitudinal fringe of short thick gold setae distally on posterior margins; middle and hind femora lacking spines along anterior margins, but bearing continuous longitudinal rows of short sharp spines along posterior margins on dorsal and ventral faces; middle and posterior tibiae and posterior tarsi thickly set with longitudinal rows of stout reddish spines, these spines longer and more dense distally, middle and hind tibiae also with two transverse rows of 4–7 stout spines apically; middle and hind tarsi lacking spines dorsally, bearing longitudinal rows of short reddish spines ventrally; middle and posterior femora, tibiae, and tarsi set with long gold swimming hairs along posterior margins; claws gold, sharply bent. *Male genitalia* with parameres asymmetrical; left paramere small, roughly triangular, tip rounded (Fig. 43); right paramere larger, curving, with an elongate distal arm, tip of arm slightly expanded (Fig. 45); male phallosoma with tip elongate (Fig. 44). *Female subgenital plate* roughly trapezoidal, symmetrical, posterior margin broadly and shallowly concave, with small hair tufts behind posterior margin to either side of central concavity (Fig. 61).

Macropterous form. Unknown.

Types. Holotype, brachypterous male: PAPUA NEW GUINEA, Northern Province, Boikiki, fast river, 26 July 1985, J. W. Ismay (BPBM). Paratypes: PAPUA NEW GUINEA, Northern Prov.: 23 brachypterous males, 28 brachypterous females, 8 immatures, same data as holotype (JTTC, BPBM).

Discussion. This species is known only from the northern section of the Papuan Peninsula (Fig. 74). No information is available regarding its habitat preferences, except for the collector's note that it was taken from a "swift river."

***Aptinocoris sogeri* new species**

Figs. 36, 37, 49–51, 67, 74

Diagnosis. This species is similar in general appearance to *A. boikiki* and *A. fenneri*, but may be separated by the lack of abdominal asymmetry in the female (Fig. 67), and the distinctive male genitalia (Figs. 49–51). *Aptinocoris sogeri* occurs sympatrically with *A. fenneri* in upland streams near Port Moresby, but may be separated from that species in the field by its larger size.

Description. *Brachypterous form.* Of large size for genus, form ovate (Fig. 36), basic coloration dull yellowish brown with scattered dark brown or black markings. Male length 10.40, maximum width (across abdomen) 6.00; female length 10.30, maximum width 6.10. *Head* dark yellowish brown, with paired longitudinal stripes medially to either side of midline, width/length = 3.00/1.70; eyes black, shining, width/length = 0.60/1.20, inner margins convergent anteriorly, separated from vertex by shallow furrows, anterior/posterior interocular width = 1.40/1.80, lateral flange small, glabrous; posterior margin of vertex weakly and

broadly rounded, weakly produced behind eyes; anteclypeus with anterior margin broadly rounded, barely projecting ahead of eyes, produced beyond labrum for distance less than length of labrum, with obvious notch above labral base; labrum roughly triangular, rounded distally, yellowish brown; rostrum yellowish basally, second segment gold, glabrous, extending beyond labrum; antennae slender, filiform, not extending beyond eye margins, basal segments bearing slender gold setae, segment IV glabrous. *Pronotum* dark yellowish, mottled centrally with dark brown at muscle attachments, weakly depressed medially behind vertex, width/length (midline) = 5.40/2.10, lateral margins arcuate, posterolateral angles acute, posterior margin bisinuate. *Scutellum* dark brown, width/length (midline) = 2.50/1.45, lateral margins sinuate, transverse sulcus present along anterior margin. *Hemelytra* dark brown, lighter brown narrowly bordering scutellum, along claval commissure, and on basal $\frac{3}{4}$ of embolium, each hemelytron also with two small dark yellow spots, one near inner posterior margin of embolium, another at posteromedial apex of corium; surface of corium coarsely rugose, membrane reduced, obscure, hemelytra truncate posteriorly, extending only to middle of abdominal tergite IV, embolium demarcated by deep narrow sinuate furrow along inner margin, posterior margin obscure, lateral margin narrowly glabrous, bearing fringe of long recumbent gold setae. *Abdomen* with all visible tergites uniformly dark yellowish laterally, becoming embrowned centrally; posterolateral angles of all tergites bearing slender tufts of elongate gold setae; posterolateral angles of segments II–IV in both males and females not produced or spinose; posterolateral angles of segments V–VII in male acutely angulate, symmetrical, posterolateral angles of segment VIII rounded, posteromedial portion of male tergite V very weakly asymmetrical, with a small central notch offset slightly to right of center as viewed from above; segments V–VII of female symmetrical, posterolateral angles of segment V–VII sharply angulate, posterolateral angles of segment VIII rounded (Fig. 67). *Ventral surface* light brown, with head, prosternum, mesosternum centrally and abdomen covered with thick recumbent gold hydrofuge pile; mesosternal plate sharply reflexed along anterior margin, coming to acute subconical point anteromedially, this point separated by transverse sulcus from broad tumescence posteromedially. *Legs* dark yellowish, anterior femur with thick pad of gold setae along anterior margin, fringe of long gold setae along posterior margin; anterior tibia slender, gently curving, with short gold setae along inner face; middle and hind coxae each bearing single row of short reddish spines ventrally, terminating in a single large glabrous tubercle distally; middle and hind trochanters with narrow longitudinal fringe of short thick gold setae distally on posterior margins; middle and hind femora lacking spines along anterior margins, but bearing continuous longitudinal rows of short sharp spines along posterior margins on dorsal and ventral faces; middle and posterior tibiae and posterior tarsi thickly set with longitudinal rows of stout reddish spines, these spines longer and more dense distally, middle and hind tibiae also with single transverse row of stout spines apically; middle and hind tarsi lacking spines dorsally, bearing longitudinal rows of short reddish spines ventrally; middle and posterior femora, tibiae, and tarsi set with long gold swimming hairs along posterior margins; claws gold, sharply bent. *Male genitalia* with parameres asymmetrical; left paramere small, roughly triangular, tip elongate and rounded (Fig.

49); right paramere larger, curving, with slender distal arm, tip of arm not expanded (Fig. 51); male phallosoma with tip slender, rounded (Fig. 50). *Female subgenital plate* roughly trapezoidal, symmetrical, posterior margin broadly and shallowly concave, with small hair tufts behind posterior margin to either side of central concavity (Fig. 67).

Macropterous form. Similar to brachypterous form in general structure and coloration, with following exceptions: male length 10.10, maximum width 5.80; macropterous female unknown; pronotum slightly expanded, posterolateral angles less acute; scutellum weakly raised; hemelytra with claval and embolar sutures well defined; membrane fully developed, reaching to base of genital segment, lacking evident venation.

Types. Holotype, brachypterous male: PAPUA NEW GUINEA, **Central Prov.**, Ieo Creek, nr. Baruanumu, 22 September 1983, CL 1840, D. A. and J. T. Polhemus (BPBM). Paratypes: PAPUA NEW GUINEA, **Central Prov.**: 1 macropterous female, 4 brachypterous males, 3 brachypterous females, same data as holotype (JTTC); 1 brachypterous male, 3 brachypterous females, Musgrave (Aieme) River at Awarere Plantation, 22 September 1983, CL 1841, J. T. and D. A. Polhemus (JTTC); 1 macropterous male, stream nr. Musgrave River, 22 September 1983, CL 1842, J. T. and D. A. Polhemus (JTTC); 1 brachypterous male, Bworogo Creek, 12 km E of Sogeri, 500 m (1,640 ft), 22 September 1983, CL 1843, J. T. and D. A. Polhemus (JTTC).

Discussion. This species is known only from the southern section of the Papuan Peninsula (Fig. 74). Individuals were taken amid stones in areas of moderately swift current, sometimes in company with *A. fenneri* (see previous discussion under that species).

***Aptinocoris ziwa* new species**

Figs. 68, 70, 74

Diagnosis. Distinguished by its small size (length 7.00 mm) and distinctive female subgenital plate (Fig. 70); known from only a single female.

Description. *Brachypterous female.* Small for genus, form ovate, basic coloration golden brown with darker brown markings on head, pronotum, scutellum and hemelytra. Female length 7.00, maximum width 3.40. *Head* pale yellowish brown, with broad longitudinal darker brown stripe medially along midline, width/length = 1.80/1.20; eyes black, shining, width/length = 0.37/0.80, inner margins convergent anteriorly, separated from vertex by shallow furrows, anterior/posterior interocular width = 1.00/1.25, lateral flange small, glabrous; posterior margin of vertex weakly and broadly rounded, weakly produced behind eyes; anteclypeus with anterior margin broadly rounded, barely projecting ahead of eyes, produced beyond labrum for distance less than length of labrum, with obvious notch above labral base; labrum roughly triangular, rounded distally, dark yellowish brown; rostrum yellowish basally, second segment gold, glabrous, extending beyond labrum; antennae slender, filiform, not extending beyond eye margins, basal segments bearing slender gold setae, segment IV glabrous. *Pronotum* pale yellowish brown, bearing broad darker brown markings to either side of midline at muscle attachments, weakly depressed medially behind vertex, width/length (midline) = 3.25/1.15, lateral margins arcuate, posterolateral angles coming to tiny incipient points, posterior margin bisinuate. *Scutellum*

medium dark brown, width/length (midline) = 2.00/1.15, lateral margins weakly sinuate, transverse sulcus present along anterior margin. *Hemelytra* (Fig. 68) medium dark brown, narrowly yellowish along embolar margin; surface of corium coarsely rugose, membrane reduced, forming small, roughly triangular glabrous tab; hemelytra truncate posteriorly, extending only to middle of abdominal tergite IV, embolium demarcated by deep narrow sinuate furrow along inner margin, posterior margin obscure, lateral margin narrowly glabrous, bearing sparse fringe of long recumbent gold setae. *Abdomen* with all visible tergites uniformly medium golden brown; posterolateral angles of all tergites bearing sparse tufts of slender, elongate gold setae; posterolateral angles of segments II–VII not produced or spinose, symmetrical (Fig. 70). *Ventral surface* light brown, with head, prosternum, mesosternum centrally and abdomen covered with thick recumbent gold hydrofuge pile; mesosternal plate sharply reflexed along anterior margin, forming a rounded tumescence anteromedially, this tumescence separated by transverse sulcus from broader tumescence posteromedially. *Legs* pale yellowish brown, anterior femur with thick pad of gold setae along anterior margin, fringe of long gold setae along posterior margin; anterior tibiae slender, gently curving, with short gold setae along inner face; middle and hind coxae each bearing a single large glabrous tubercle distally, lacking rows of short reddish spines ventrally; middle and hind trochanters with narrow longitudinal fringe of short thick gold setae distally on posterior margins; middle and hind femora lacking spines along anterior margins, but bearing continuous longitudinal rows of short sharp spines along posterior margins on dorsal and ventral faces; middle and posterior tibiae and posterior tarsi thickly set with longitudinal rows of stout reddish spines, these spines longer and more dense distally, middle and hind tibiae also with single transverse row of stout spines apically; middle and hind tarsi lacking spines dorsally, bearing longitudinal rows of short reddish spines ventrally; middle and posterior femora, tibiae, and tarsi set with long gold swimming hairs along posterior margins; claws gold, sharply bent. *Female subgenital plate* roughly trapezoidal, symmetrical, posterior margin bifurcate, with deep medial concavity, small hair tufts absent behind posterior margin to either side of medial concavity (Fig. 70).

Brachypterous male. Unknown.

Macropterous form. Unknown.

Types. Holotype, brachypterous female: INDONESIA, **Irian Jaya Prov.**, rocky rain-forest tributary to upper Ziwa River at PTFI Wapoga Alpha drilling camp, 1,050 m (3,500 ft), water temp. 20°C, 18 April 1998, 10:00–17:00 hr, 3°08.69'S, 136°34.42'E, CL 7100, D. A. Polhemus (LIPI).

Discussion. *Aptinocoris ziwa* is a small species, and is superficially similar in general size and aspect to *A. minutus*. It may be easily separated from that species by the structure of the female subgenital plate, which has a deep central concavity along the posterior margin (Fig. 70). The male is currently unknown, so no comparison is possible on the basis of male parameres or other genitalic structures. *Aptinocoris ziwa* may also possibly be confused with smaller specimens of *A. papuus*, but can be separated by its narrower overall body shape, and by the shape of the embolar furrow on the hemelytron, which runs nearly parallel to the hemelytral margin, such that the posterior width of the embolium is less than 1.5 the basal width; in *A. papuus*, by contrast, the embolar furrow curves inward posteriorly, causing an ob-

vious posterior widening of the embolium, with its posterior width being over 2.0 times its basal width (compare Figs. 68, 69).

The only known specimen of *A. ziwa* was taken from a small, clear, swiftly flowing tributary stream to the upper Ziwa River, shaded by a canopy of primary montane rain forest. The specimen was captured by disturbing small rocks and gravels swept by the midstream current, and occurred in company with other naucorid species in the genera *Tanyricos* and *Idiocarus*, and large, predaceous baetid mayfly immatures.

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APPENDIX 1. Checklist of taxa currently held in the tribe Sagocorini.

Taxon	Remarks
<i>Aptinocoris</i>	
<i>boikiki</i> D. Polhemus and J. Polhemus	New species
<i>cheesmanae</i> (La Rivers)	New combination
<i>fenneri</i> (La Rivers)	New combination
<i>minutus</i> D. Polhemus and J. Polhemus	New species
<i>papuas</i> Montandon	
<i>sedlaceki</i> (La Rivers)	New combination
<i>sogeri</i> D. Polhemus and J. Polhemus	New species
<i>ziva</i> D. Polhemus and J. Polhemus	New species
<i>Sagocoris</i>	
<i>asymmetricus</i> (La Rivers)	New combination
<i>biroi</i> Montandon	
<i>flavinotum</i> D. Polhemus and J. Polhemus	New species
<i>gressitti</i> La Rivers	
<i>intermedius</i> D. Polhemus and J. Polhemus	New species
<i>irianus</i> d. Polhemus and J. Polhemus	New species
<i>lariversae</i> La Rivers	
<i>Cavocoris</i>	
<i>bisulcus</i> La Rivers	
<i>ibatiri</i> D. Polhemus and J. Polhemus	
<i>ismayi</i> D. Polhemus and J. Polhemus	
<i>minor</i> D. Polhemus and J. Polhemus	
<i>rotundatus</i> D. Polhemus and J. Polhemus	
<i>Warisia</i>	
<i>cavanceps</i> La Rivers	
<i>Quadricoris</i> La Rivers	Synonym of <i>Sagocoris</i>
<i>Sagocoris browni</i> La Rivers	Synonym of <i>Aptinocoris papuas</i>
<i>Truncocoris</i>	Synonym of <i>Aptinocoris</i>
<i>Margodes</i>	Invalid category (supergen)
<i>Margallus</i>	Invalid category (supergen)